

Cooperators

U.S.D.A. – Agricultural Research Service

Hard Winter Wheat Regional Coordinator – R. Graybosch, Lincoln, NE

Hard Winter Wheat Regional Quality – O.K. Chung, B. Seaborne, Manhattan, KS

Stem and leaf rust investigations – D. McVey, St. Paul, MN

Hessian fly investigations – J. Hatchett, C. Katsar, Manhattan, KS

Russian wheat aphid / greenbug investigations – C. Baker, D. Porter, J. Webster, Stillwater, OK

SBMV / BYDV investigations – L. Domier, Urbana, IL

Texas Agricultural Experiment Station

Texas A&M University, College Station, TX – A. Fritz

TAMU Research & Extension Center, Dallas, TX – D. Marshall

TAMU Research & Extension Center, Amarillo, TX – M. Lazar, G. Peterson

New Mexico Agricultural Experiment Station

Agricultural Science Center, Clovis, NM – R. D. Baker, F. Williams

Agricultural Science Center, Farmington, NM - E.J. Gregory, C. Owen

Oklahoma Agricultural Experiment Station

Oklahoma State University, Stillwater, OK – B. Carver, R. M. Hunger, M. Rice, G.H. Morgan, D. Jones, R. Thacker

Iowa Agricultural Experiment Station

Iowa State University, Ames, IA – R. Skrdla

Kansas Agricultural Experiment Station

Kansas State University, Manhattan, KS – L. Coonrod, G. Brown-Guedira (USDA-ARS)

KSU, Hays Experiment Station – J. Martin, C. Seaman

KSU, Garden City Experiment Station – M. Witt

KSU, Colby Experiment Station – P. Evans

KSU, Hutchinson Experiment Station – W. Heer

Colorado Agricultural Experiment Station

Colorado State University, Ft. Collins, CO – S. Haley, J. Stromberger, S. Clayshulte, B. Clifford

Nebraska Agricultural Experiment Station

University of Nebraska, Lincoln, NE – S. Baenziger, R. Samson (USDA-ARS), L. Divis (USDA-ARS), V. Hansen (USDA-ARS) K. Ditch, C. Hoagland, A. Pavlov

UNL, North Platte Station – R. Klein

UNL, Panhandle Research Station, Scottsbluff – D. Baltensperger

UNL, High Plains Ag. Laboratory – T. Nightingale, G. Frickel

Wyoming Agricultural Experiment Station

University of Wyoming, Torrington Substation – J. Krall, J. Natchman

University of Wyoming, Archer Substation – R. Hybner

South Dakota Agricultural Experiment Station

South Dakota State University, Brookings, SD – S. Kalsbeck, R. Little, Yue Jin, M. Langham

North Dakota Agricultural Experimental Station

North Dakota State University, Fargo, ND – M. Peel
NDSU, Williston Branch Station – N. R. Riveland
NDSU, Hettinger Branch Station – E. Eriksmoen

Montana Agricultural Experimental Station

Montana State University, Bozeman, MT – P. Bruckner, J. Berg
Central Ag. Research Center, Moccasin – R. Murphy, D.M. Wicham

Idaho Agricultural Experiment Station

Idaho State University, Aberdeen Station – E. Souza

Minnesota Agricultural Experiment Station

University of Minnesota, St. Paul, MN – J. Anderson, L. Matthiesen
R. Busch (USDA-ARS)

Oregon Agricultural Experiment Station

Oregon State University, Corvallis, OR – J. Peterson

Missouri Agricultural Experiment Station

University of Missouri, Columbia, MO – A. McKendry, D. Tague

Agriculture and Agrifoods Canada

Ag. Research Station, Lethbridge, Alberta – R. Graf, D. Quinn

Agipro Seeds Inc.

Fort Collins, CO, R. Bruns, J. Moffatt
Manhattan, KS, R. Sears
Vernon, TX, D. Worrall

Monsanto

B. Johnson, B. Moreno-Seville, Wichita, KS

Goertzen Seed Research

Sid Perry, Haven, KS

TRIO Seed Research

J. Wilson, Wichita, KS

Trigen Seed Services

R. Romig, Bloomington, MN

Cultivars and germplasm released, 1999:

1. 'Trego' (KS95HW62-6), Kansas State University.
2. 'Cougar' (NE93496), University of Nebraska
3. 'Millennium' (NE94479), University of Nebraska
4. 'Harding' (SD92107), South Dakota State University
5. 'Prowers 99' (CO98001-MB, reselection of Prowers), Colorado State University
6. 'Kalvesta' (G14264), Goertzen Seeds
7. 'Boundary' (A86115W-2), Idaho State University
8. 'TAM302' (TX91D6913), Texas A&M University
9. KS96WGRC34, KS96WGRC35, KS96WGRC36, rust resistant germplasm, USDA-ARS/Kansas State University
10. KS96WGRC37, powdery mildew resistant germplasm, USDA-ARS/Kansas State University
11. KS96WGRC38 and KS96WGRC39 tan-spot resistant germplasm, USDA-ARS/Kansas State University
12. KS96WGRC40 curl mite resistant germplasm, USDA-ARS/Kansas State University

1999 SRPN, Location notes and observations

Bushland, Texas: Following the driest summer on record (3.55" precipitation from May through September), the growing season was abnormally wet (22.34" from October through June, compared to 30-yr average of 11.31"). In addition the winter months were abnormally warm and no major spring freeze events were recorded. Only spotty outbreaks of greenbug and Russian wheat aphid occurred, but barley yellow dwarf was widespread in the spring. No other disease epidemics were noted.

Farmington, New Mexico: Planted 9/22/98, harvested 8/10/99, fertilizer regime = 100 lbs/acre N, 52 lbs/acre P₂O₅, 60 lbs/acre K₂O, soil type = Doak fine sandy loam, center pivot irrigation, applied as necessary.

Clovis, New Mexico: Dryland – planted 9/22/98, watered to induce germination, harvested 6/29/99. Fertilizer: 252 lbs/acre 11-52-0. Irrigated – Planted 9/23/98, irrigated 9/23/98, 1/5/99, 3/16/99, 3/17/99, fertilizer regime = 252 lbs/acre 11-52-0, 55 lbs/acre anhydrous ammonia, harvested 7/2/99. Temperature and precipitation patterns during growing season similar to 50 year averages.

Fort Collins, Colorado: Nurseries were planted into summer-fallow on 9/29/98, with 70 lbs/A N applied preplant. Nurseries received supplemental moisture by furrow-irrigation. Trace amounts of leaf rust and localized Russian wheat aphid infestations were observed.
Nurseries were harvested on 7/26/99.

Akron, Colorado: Nurseries were planted into summer-fallow on 9/24/98, with 70 lbs/A N applied preplant. Planting moisture was reasonably good, as it was at the other dryland locations. Trace amounts of leaf rust were observed. Nurseries were harvested on 7/12/99.

Burlington, Colorado: Nurseries were planted into summer-fallow on 9/22/98, with 80 lbs/A N and 29 lbs/A P applied preplant. Growth was extremely lush in the spring but soil moisture became very short by heading (mid-late May). Good rains were received by early June and

significant leaf rust was observed. A storm just prior to harvest caused significant lodging and hail damage. Nurseries were harvested on 7/8/99.

Julesburg, Colorado: Nurseries were planted into summer-fallow on 9/22/98, with 40 lbs/A N and 15 lbs/A P applied preplant. No leaf disease was observed. Hot, dry winds in early June reduced yields. A storm about one week before harvest caused significant lodging. Nurseries were harvested on 7/14/99.

Walsh, Colorado: Nurseries were planted into summer-fallow on 9/23/98, with 45 lbs/A N applied preplant and 10 gallons/A 10-34-0 applied at planting. Growth in early spring was quite lush and unusually good rains occurred throughout the growing season. Trace amounts of leaf rust were observed by heading, but infection and spread did not progress significantly. Localized infestations by Bird Cherry-Oat aphids caused significant barley yellow dwarf virus damage. Nurseries were harvested on 7/5/99.

Colby, Kansas: planted 9/18/98, fertilizer regime 50-20-0, applied in spring, total rainfall = 14.68", hail on 6/11/99 caused some shattering, harvested 9/18/99.

Wichita, Kansas: water logged soils, heavy lodging, severe head shattering, severe disease pressure due to SBMV, BYDV, leaf rust.

Garden City, Kansas: Keith silt loam soil, pH = 7.8, O.M. = 1.2%, total N = 758 ppm, total P = 473 ppm, total K = 766 ppm.

Alliance, Nebraska: good moisture, good growing conditions after a dry planting, with some cheat grass problems.

Clay Center, Nebraska: above average rains and an incredible amount of diseases at finish, similar to the heavy disease pressure seen in Oklahoma and southern Kansas. Plots were damaged by late fertilizer application.

Lincoln, Nebraska: Good seeding conditions, good growing conditions, but finishing under rain leading to diseases and lodging. Good football season.

North Platte, Nebraska: Excellent moisture, plots followed corn, with resulting high fertility and lodging.

Sidney, Nebraska: Site abandoned due to hail damage.

Crawfordsville, Iowa: The SRPN was planted at Crawfordsville, IA on 10/01/98 and harvested 7/7/99.

1999 Southern Regional Performance Nursery			
Entry	Cultivar or Pedigree	Selection No.	Source
1	Kharkof	CI1442	Check
2	Scout 66	CI13996	Check
3	TAM-107	PI495594	Check
4	HBY756A/Siouxland//2180	OK94P549-2C	Oklahoma
5	TXGH13622/2180	OK95616-14C	Oklahoma
6	OK87W663/Mesa//2180	OK95571	Oklahoma
7	Abilene/2180//Chisholm	OK96717	Oklahoma
8	OK86216/Cimarron sib//2180	OK95548-26C	Oklahoma
9	TAM-301//TAM-108/Bobwhite	TX93D2066	TX, Dallas
10	TX90D9377/Probrand 812	TX95D8283	TX, Dallas
11	TAM-105/10334	TX90A9528	TX, Vernon
12	U1254-1-8-1-1/TAM-202	TX94V5922	TX, Vernon
13	TX88V5435/Yantar	TX95V4339	TX, Vernon
14	TAM200/Fundulea	TX95V5905	TX, Vernon
15	U1254-1-5-1-1/TX89V4213	TX97V4311	TX, Vernon
16	KS87G325-2-1/RioBlanco	CO940611	Colorado
17	Hill/PI294994-GBR/Lamar	CO950043	Colorado
18	KS87H325/RioBlanco	Trego	KS, Hays
19	PI220350/KS87H57//TAM200/ KS87H66/3/KS87H325	KS95H167-3	KS, Hays
20	KS91HW29//RioBlanco/KS91H184	KS96HW10-3	KS, Hays
21	Arlin/KS89H130	KS96HW115	KS, Hays
22	Arlin/KS89H20	KS96HW94	KS, Hays
23	G223W/Abilene	G96047	Goertzen Seed
24	Abilene/G1113//Karl92/3/G53	G96134	Goertzen Seed
25	Abilene/G1113//Karl92/3/G53	G96135	Goertzen Seed
26	G83R2/TX81V6180//G223W	G96044	Goertzen Seed
27	Abilene/Arapahoe	NE95510	Nebraska, UNL
28	Abilene/Nekota sib	NE96573	Nebraska, UNL
29	Buck Pucura/H1781f//Klein Orion	TK1269	Trigen
30	Buck Poncho S/ Buck Charrua S	TB1071	Trigen
31	T702*2/Karl	T108	Trio
32	T67//Tecumseh/Plainsman V	T111	Trio
33	T67//Tecumseh/Plainsman V	T112	Trio
34	T68/KS90WGRC10	T114	Trio
35	WI90-425//N84-0758//WI81-297-3	W95-385	Agripro
36	WI90-425//N84-0758//WI81-297-3	W95-392	Agripro
37	KS85-663-8-9//WI81-133/Thunderbird	W95-091	Agripro
38	HBK0927	W94-480W	Agripro
39	WI89-282/Arlin	W95-610W	Agripro
40	Quantum Hybrid Wheat	XH1888	HybriTech
41	Quantum Hybrid Wheat	XH9806	HybriTech
42	Quantum Hybrid Wheat	XH9815	HybriTech
43	KS8010-73/KS8010-1-4-2//101349/KS11252/3/Karl	KS89180B-2-1-2	KS, Manhattan
44	HBA142A/HBZ623A//ALE	HBK0630-4-5	KS, Manhattan
45	KSSB0192-3/NE89529	NW97S151	Nebraska, ARS

Table 1. Yield and agronomic performance of 45 wheats grown in the 1999 SRPN.

Clovis (dryland) New Mexico, three replications					
line	entry	yield kg/ha	volute weight kg/hl	plant height cm	days to heading from 1/1
KS89180B-2-1-2	43	4989	76.5	89	139
XH1888	40	4846	79.5	89	142
W 95-610W	39	4708	74.8	88	138
NE96573	28	4687	73.8	86	137
G96044	26	4684	78.0	91	138
XH9815	42	4608	74.2	86	135
W 95-385	35	4579	80.1	90	138
TX94V5922	12	4537	79.9	87	137
OK96717	7	4533	78.6	90	139
T112	33	4478	76.8	88	135
TX97V4311	15	4466	80.6	84	140
G96134	24	4456	74.6	94	140
NW 97S151	45	4441	77.2	89	139
OK95616-14C	5	4424	78.6	91	137
W 95-392	36	4392	80.3	86	139
OK95571	6	4388	75.8	86	144
TX95V5905	14	4370	77.4	91	138
G96047	23	4364	78.5	93	137
Trego	18	4277	80.4	83	138
W 95-091	37	4264	78.8	89	136
HBK0630-4-5	44	4239	79.5	89	141
TX90A9528	11	4192	74.8	89	138
T111	32	4154	77.3	80	138
OK94P549-2C	4	4146	77.8	87	141
Scout66	2	4141	73.4	92	136
CO950043	17	4138	78.1	90	137
KS96HW 94	22	4061	79.4	92	140
W 94-480W	38	4048	76.1	91	138
T108	31	3956	77.1	85	136
TX95V4339	13	3939	77.4	94	138
T114	34	3928	75.5	86	138
CO940611	16	3879	78.5	81	136
TX95D8283	10	3764	71.1	81	138
XH9806	41	3732	77.6	84	136
KS95H167-3	19	3729	77.5	91	140
OK95548-26C	8	3703	77.4	91	135
TAM 107	3	3638	71.0	89	139
NE95510	27	3479	74.0	91	141
KS96HW 10-3	20	3281	78.6	88	138
G96135	25	3256	74.8	87	139
KS96HW 115	21	3233	78.6	86	137
TX93D2066	9	3143	76.4	97	136
Kharkof	1	3113	77.8	86	138
TB1071	30	1996	72.2	89	139
TK1269	29	1102	72.2	88	138
mean		4011	76.9	88	138
lsd. (0.05)		1435	5.2		
c.v. (%)		22	4.2		

Table 1, contd.

Clovis (irrigated) New Mexico, three replications						
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1	lodging (%)
W 95-385	35	7722	79.3	105	135	0
HBK0630-4-5	44	7620	79.2	97	139	0
T112	33	7570	79.3	95	139	0
NW 97S151	45	7468	76.6	105	138	0
KS96HW 10-3	20	7367	78.2	115	135	0
G96134	24	7352	76.9	106	136	0
G96047	23	7347	79.1	94	136	0
TX90A9528	11	7293	76.2	107	136	2
XH 9806	41	7273	78.2	104	133	0
NE96573	28	7219	78.5	111	137	0
KS96HW 94	22	7142	80.0	102	139	0
W 95-610W	39	6998	79.9	94	135	0
T108	31	6965	76.1	102	136	0
G96135	25	6953	78.6	108	137	0
CO950043	17	6877	79.5	99	137	0
TX93D 2066	9	6768	76.3	112	139	0
XH 1888	40	6694	76.3	106	139	0
TX94V5922	12	6663	79.2	101	137	9
TX95D 8283	10	6586	75.2	93	138	1
W 95-091	37	6576	77.9	98	138	2
G96044	26	6543	78.8	99	134	0
OK95571	6	6529	79.7	106	135	0
Trego	18	6400	81.1	104	138	0
TX95V4339	13	6336	75.0	99	138	0
W 94-480W	38	6276	78.9	113	139	0
T111	32	6053	77.5	102	135	0
OK95616-14C	5	6012	74.6	97	139	5
OK95548-26C	8	5697	79.2	99	138	0
W 95-392	36	5566	80.2	100	136	0
KS89180B-2-1-2	43	5446	74.3	100	136	0
T114	34	5395	75.1	105	136	0
OK96717	7	5326	78.7	98	135	0
KS96HW 115	21	5268	79.0	106	136	0
TAM 107	3	5210	76.1	101	141	0
OK94P549-2C	4	5202	79.0	97	140	0
CO940611	16	5183	78.9	102	135	0
TX97V4311	15	5053	78.4	86	137	1
TX95V5905	14	5047	78.5	95	138	12
NE95510	27	4708	77.7	110	136	0
XH 9815	42	4652	75.8	105	136	0
Scout66	2	4177	78.9	109	133	13
Kharkof	1	4059	77.8	114	140	12
KS95H 167-3	19	3452	79.4	106	138	2
TB1071	30	3204	78.3	75	137	0
TK1269	29	3189	76.0	87	136	0
mean		6054	77.9	102	137	1
ls.d. (0.05)		1856	3.3			
c.v. (%)		19	2.6			

Table 1, contd.

Farmington (irrigated) New Mexico, four replications					
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1
CO950043	17	9107	70.3	81	130
KS95H167-3	19	8532	68.8	86	131
TX90A9528	11	7919	66.2	82	134
TX94V5922	12	7798	61.9	80	131
CO940611	16	7592	68.9	81	130
TX93D2066	9	7507	66.4	90	137
XH1888	40	7305	67.1	83	131
W 94-480W	38	7099	63.6	86	131
G96047	23	7062	66.8	74	131
G96044	26	7032	66.2	81	130
W 95-610W	39	7029	69.7	73	131
KS96HW 115	21	7010	66.8	83	131
TX95D8283	10	7003	65.8	85	136
T108	31	6988	66.8	80	131
W 95-385	35	6960	67.7	76	130
NW 97S151	45	6936	67.1	79	130
XH 9806	41	6849	66.4	85	132
XH 9815	42	6790	65.2	80	133
T114	34	6715	65.8	80	131
TAM 107	3	6579	64.9	77	131
OK95616-14C	5	6544	64.9	74	132
W 95-392	36	6519	67.7	75	132
TX95V5905	14	6497	65.5	80	134
T112	33	6428	63.0	77	131
OK95548-26C	8	6347	65.5	67	132
Trego	18	6133	68.1	78	131
OK94P549-2C	4	5812	65.8	77	133
KS96HW 10-3	20	5721	65.2	75	136
HBK0630-4-5	44	5668	66.8	78	134
Scout66	2	5651	67.7	97	128
OK95571	6	5630	64.5	79	131
TX95V4339	13	5570	63.6	75	138
T111	32	5527	63.2	73	131
Kharkof	1	5502	66.2	109	139
OK96717	7	5268	68.4	83	135
NE95510	27	5200	66.2	90	134
TX97V4311	15	5175	64.9	59	130
KS89180B-2-1-2	43	4992	63.6	69	134
KS96HW 94	22	4961	64.5	73	131
G96135	25	4844	64.5	74	129
TB1071	30	4772	64.5	69	132
G96134	24	4745	61.9	73	133
NE96573	28	4708	62.3	80	133
W 95-091	37	4014	61.7	68	129
TK1269	29	3974	62.3	70	130
mean		6267	65.7	79	132
lsd. (0.05)		1618			
c.v. (%)		18			

Table 1, contd.

McGregor, Texas, four replications							
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1	leafrust 2/3/99	leafrust 4/24/99
W 95-385	35	5067	77.3	94	89	5M R/M S	40S
T114	34	4687	73.7	94	88	R	tR
Trego	18	4666	75.5	89	92	R ;	60S
KS95H167-3	19	4627	75.1	94	92	R	tR ;
TX95V5905	14	4603	73.5	97	90	R	M IX R-80S
XH1888	40	4489	76.6	102	95	R	R
OK94P549-2C	4	4401	78.0	97	92	5M R	40M S
TX93D2066	9	4220	74.4	97	94	R ;	20M S
TX95D8283	10	4208	70.8	94	90	R	R
KS89180B-2-1-2	43	4190	74.6	86	89	5M R	20M S
XH9815	42	4062	76.4	97	88	tM R	80S
W 95-392	36	4059	78.7	91	89	30S	80S
W 95-091	37	3988	74.9	89	99	R	R
OK96717	7	3951	77.0	97	89	30S	40S
HBK0630-4-5	44	3931	76.1	94	90	10M R/M S	40S
OK95616-14C	5	3897	71.7	97	89	30S	80S
OK95548-26C	8	3859	74.6	86	87	tM R/M S	30M S
TX95V4339	13	3765	75.7	86	94	R ;	R
TK1269	29	3727	74.8	94	89	R ;	tR
G96047	23	3575	75.2	79	90	80S	100S
TX97V4311	15	3504	71.6	84	82	R	R
XH9806	41	3403	72.8	89	94	5M R/M S	50S
TB1071	30	3248	74.9	89	90	R ;	10M R
TX94V5922	12	3242	61.8	84	93	10S	R
KS96HW94	22	3235	74.8	86	99	5M S	80S
NW97S151	45	3190	70.4	97	97	5R/M R	30S
T108	31	3159	74.6	84	84	80S	90S
KS96HW115	21	2988	73.9	86	94	60S	80S
OK95571	6	2917	76.8	91	94	5M R/M S	90S
CO940611	16	2885	76.6	89	96	60S	80S
TAM 107	3	2717	72.0	94	89	80S	90S
W 95-610W	39	2690	76.6	79	111	tR/M R	80S
G96135	25	2645	75.7	86	86	80S	100S
G96044	26	2466	73.0	84	90	30M S/S	80S
TX90A9528	11	2416	74.0	89	107	20M S	80S
T112	33	2413	74.8	91	86	40S	70S
T111	32	2325	74.7	86	86	80S	90S
KS96HW10-3	20	1991	74.0	84	92	70S	90S
G96134	24	1883	73.1	84	91	80S	100S
W 94-480W	38	1868	78.0	91	107	30S	80S
NE96573	28	1687	72.2	84	111	20S	90S
NE95510	27	1660	75.7	86	113	20S	60S
Scout66	2	1367	75.2	101	120	60S	90S
CO950043	17	1120	74.3	76	98	80S	90S
Kharkof	1	604	76.2	91	118	60S	80S
mean		3235	74.5	90	94		
LSD (0.05)		582					

Table 1, contd.

Bushland (dryland), Texas, three replications					
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1
XH 9815	42	4823	76.2	90	122
W 95-610W	39	4689	78.1	81	123
W 94-480W	38	4675	80.1	88	123
XH 9806	41	4639	76.4	85	121
TX97V4311	15	4575	79.7	73	116
HBK0630-4-5	44	4470	78.7	84	121
XH1888	40	4441	75.6	88	122
CO950043	17	4360	77.7	85	118
CO940611	16	4329	76.7	88	121
NW 97S151	45	4120	75.9	83	123
OK94P549-2C	4	4086	80.0	83	122
G96047	23	4069	79.0	84	121
TX95V5905	14	4030	77.3	89	121
KS96HW 115	21	3974	79.1	87	123
T111	32	3968	74.9	77	120
NE96573	28	3963	76.8	95	127
OK95548-26C	8	3961	77.2	77	121
Trego	18	3922	78.1	83	122
W 95-091	37	3907	79.2	89	121
OK95616-14C	5	3885	73.7	84	119
KS89180B-2-1-2	43	3882	73.8	83	124
TX94V5922	12	3879	80.0	81	118
TX95D8283	10	3807	74.5	86	122
T112	33	3802	73.8	82	120
W 95-385	35	3743	76.8	84	121
T108	31	3724	77.5	85	121
TX93D2066	9	3693	78.9	94	123
KS96HW 10-3	20	3688	78.7	84	124
TK1269	29	3656	74.6	86	124
NE95510	27	3596	78.1	91	129
OK95571	6	3556	74.7	84	121
KS96HW 94	22	3517	75.9	82	126
TB1071	30	3501	74.7	76	119
Scout66	2	3487	76.9	103	123
G96044	26	3463	77.8	85	117
TX95V4339	13	3453	77.3	82	123
TAM 107	3	3440	77.9	75	116
TX90A9528	11	3392	78.0	86	123
OK96717	7	3275	81.1	86	121
KS95H167-3	19	3239	75.8	90	121
G96134	24	3173	74.4	83	121
W 95-392	36	3125	76.5	88	121
G96135	25	2824	74.2	83	120
Kharkof	1	2778	76.8	110	132
T114	34	2557	78.0	85	121
mean		3803	77.0	85	122
lsd. (0.05)		920			
c.v. (%)		15			

Table 1, contd.

Bushland (irrigated), Texas, three replications								
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1	lodging (%)	head shattering (%)	leafrust, % infected
KS96HW 94	22	7505	78.6	94	123	30	7	5
XH1888	40	7432	78.7	96	120	30	10	0
W 95-610W	39	7359	80.6	87	124	0	7	8
XH9815	42	7338	79.9	91	117	0	7	10
OK94P549-2C	4	7121	79.5	62	118	7	5	0
TX95V4339	13	7111	77.1	91	124	10	8	0
Trego	18	7090	80.3	89	119	43	5	0
W 94-480W	38	7073	79.0	93	121	10	7	20
T108	31	7051	79.2	89	117	17	10	30
OK95571	6	6911	79.5	66	118	13	7	6
KS96HW 115	21	6856	79.7	94	121	17	8	22
XH9806	41	6845	78.2	92	118	0	13	2
CO940611	16	6809	79.7	88	118	40	8	42
G96047	23	6802	78.7	87	117	20	5	27
NW 97S151	45	6801	76.4	91	123	5	10	8
OK95548-26C	8	6793	77.1	59	117	5	7	5
CO950043	17	6768	79.2	92	116	13	8	55
T114	34	6714	78.3	91	117	7	8	1
TX94V5922	12	6638	79.6	55	116	43	7	25
G96044	26	6433	80.0	88	116	5	15	13
T112	33	6415	77.8	86	118	18	13	47
OK96717	7	6411	80.9	78	118	70	7	3
TX90A9528	11	6377	77.6	60	119	27	7	47
KS95H167-3	19	6301	80.1	94	117	13	5	1
TX95V5905	14	6271	79.4	95	119	2	18	0
TX97V4311	15	6242	82.0	70	114	2	8	0
NE96573	28	6234	75.1	98	125	57	7	23
HBK0630-4-5	44	6150	79.0	90	120	15	17	32
TK1269	29	6060	78.7	87	117	3	12	0
TX93D2066	9	5973	78.6	66	121	2	7	8
W 95-091	37	5972	80.0	91	119	20	13	0
KS96HW 10-3	20	5965	78.5	89	123	3	5	43
OK95616-14C	5	5923	76.7	58	116	23	7	33
NE95510	27	5878	76.5	96	128	43	5	22
TAM 107	3	5846	78.3	55	114	33	7	85
TX95D8283	10	5764	73.7	67	122	27	7	0
W 95-392	36	5705	81.3	87	117	0	13	11
T111	32	5580	79.1	83	117	5	13	40
W 95-385	35	5524	79.1	93	117	0	17	6
TB1071	30	5337	79.4	74	116	0	3	3
G96135	25	5331	78.8	89	119	13	8	85
KS89180B-2-1-2	43	5266	76.3	87	125	0	17	0
G96134	24	5067	76.3	88	120	10	8	40
Scout66	2	4873	74.2	96	119	90	5	13
Kharzof	1	3672	76.8	108	131	83	7	20
mean		6302	78.5	84	119	19	9	19
ls.d. (0.05)		955						
c.v. (%)		9						

Table 1, contd.

Chillicothe, Texas, three replications						
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1	leafrust reaction type
OK94P549-2C	4	4219	73.3	108	68	30s
KS89180B-2-1-2	43	4211	74.3	109	66	40m r
HBK0630-4-5	44	4198	76.6	107	69	60s
XH9815	42	4183	74.6	106	69	80s
OK95548-26C	8	4122	70.4	105	66	80s
TX95V4339	13	4066	69.0	111	74	0;
OK95571	6	4006	70.4	108	69	30s
XH1888	40	4003	71.5	114	72	tr
XH9806	41	3989	73.9	109	69	70s
TX95V5905	14	3952	71.9	105	64	60s
T108	31	3790	71.2	104	71	90s
Trego	18	3742	77.9	106	68	20m r
W 95-392	36	3730	75.3	104	68	30m s
KS95H167-3	19	3687	74.0	105	69	0;
OK95616-14C	5	3595	70.4	104	69	60s
T114	34	3569	72.8	104	69	0;
TX94V5922	12	3536	72.5	105	75	0-80s
W 95-385	35	3503		105	69	30m r
NW 97S151	45	3499	68.0	115	76	30m s
CO950043	17	3470	73.7	104	69	100s
OK96717	7	3439	74.8	105	69	50s
TX95D8283	10	3432	71.0	109	65	0;
CO940611	16	3402	74.8	111	72	90s
W 95-091	37	3300	74.7	114	75	80s
KS96HW 115	21	3287	73.1	106	70	90s
TB1071	30	3209	75.6	112	66	0;
G96044	26	3122	72.4	105	66	80s
KS96HW 94	22	3093	72.2	116	75	20s
T112	33	3069	72.2	106	65	100s
W 95-610W	39	3049	70.3	117	71	0;
T111	32	3027	72.4	105	69	100s
G96047	23	3009	73.7	106	66	50s
G96135	25	2980	70.6	103	71	100s
TAM 107	3	2952	71.1	107	69	80s
NE95510	27	2949	71.1	118	57	60s
NE96573	28	2947	68.8	113	79	30s
TX97V4311	15	2909	72.8	104	64	0;
G96134	24	2904	71.3	106	68	100s
TX93D2066	9	2779	69.3	106	69	10m r-30s
KS96HW 10-3	20	2773	72.2	105	65	100s
W 94-480W	38	2758	70.4	116	75	50s
TX90A9528	11	2597	75.1	131	79	30s
TK1269	29	2390	71.7	117	74	0;
Scout66	2	2109	74.7	115	90	80s
Kharzkof	1	1923	70.6	115	90	80m s
mean		3344	72.5	109	70	
ls.d. (0.05)		743				
c.v. (%)		14				

Table 1, contd.

Prosper, Texas, three replications							
line	entry	yield kg/ha	volum e weight kg/hl	days to heading from 1/1	BYDV*	leafrust, % infected	leafrust reaction type
OK94P549-2C	4	4781	74.8	95	5	20	M S
TX95D8283	10	4573	73.1	99	4	0	0
KS95H167-3	19	4479	75.5	98	6	0	0
Trego	18	4439	72.9	99	7	0	0
XH9815	42	4203	71.6	93	6	27	M S-S
XH1888	40	4176	72.6	99	5	0	0
OK96717	7	4109	75.9	95	5	20	M S
OK95548-26C	8	3997	72.8	95	3	20	M S
OK95616-14C	5	3963	69.7	97	4	67	S
TX95V5905	14	3847	72.2	99	5	0	0
OK95571	6	3818	72.9	98	4	47	S
XH9806	41	3791	71.3	100	6	20	M S
W 95-392	36	3784	76.1	92	6	60	S
W 95-091	37	3640	69.3	107	5	0	0
TX93D2066	9	3560	73.1	98	5	20	M S
TK1269	29	3490	72.6	105	6	0	0
W 95-385	35	3470	74.4	97	5	43	M S-S
HBK0630-4-5	44	3466	72.4	95	7	60	S-M S
KS96HW 115	21	3461	72.8	98	5	100	S
G96047	23	3394	72.1	98	5	100	S
CO940611	16	3311	73.9	103	5	80	S
T114	34	3302	70.7	97	6	0	0
TX94V5922	12	3273	70.8	99	5	80	S
TX95V4339	13	3259	69.0	98	7	13	M S
KS89180B-2-1-2	43	3136	71.5	96	4	0	0
KS96HW 94	22	3098	69.3	107	5	93	S
T108	31	3026	70.6	97	5	100	S
NW 97S151	45	3020	65.1	107	6	67	M S
G96135	25	2999	74.3	93	7	100	S
TAM 107	3	2923	69.8	96	5	97	S
G96044	26	2813	72.2	99	5	100	S
T111	32	2813	72.4	93	7	100	S
TB1071	30	2703	69.8	100	7	0	0
W 94-480W	38	2638	70.7	107	6	20	S-M S
CO950043	17	2614	71.2	99	4	100	S
W 95-610W	39	2612	70.2	116	4	60	M R-M S
T112	33	2558	72.4	96	6	100	S
G96134	24	2502	71.0	98	5	100	S
TX97V4311	15	2405	68.5	88	5	0	0
NE96573	28	2381	66.8	115	5	67	M S-S
Scout66	2	2219	72.1	115	4	73	S-M S
TX90A9528	11	2215	70.6	107	5	93	S
NE95510	27	2190	69.1	117	6	100	S
KS96HW 10-3	20	1697	72.5	97	7	100	S
Kharkof	1	1394	70.8	117	5	93	S
mean		3234	72	100	5	52	
lsd. (0.05)		380					
c.v. (%)		7					

*BYDV = reaction to barley yellow dwarfvirus (0-9)

Table 1, contd.

Beeville, Texas, one replication			
line	entry	vernalization requirement*	leaf rust reaction 4/13/99
Kharkof	1	1	S
Scout 66	2	1	S
TAM 107	3	1	S
OK94P549-2C	4	1	R
OK95616-14C	5	1	S
OK95571	6	1	M R
OK96717	7	2	R-M R
OK95548-26C	8	1	R-M R
TX93D2066	9	1	M S
TX95D8283	10	1	R
TX90A9528	11	1	S
TX94V5922	12	1	R
TX95V4339	13	1	R
TX95V5905	14	3	R
TX97V4311	15	3	R
CO940611	16	1	S
CO950043	17	1	S
KS95HW 62-6	18	2	R
KS95H167-3	19	2	M R
KS96HW 10-3	20	1	S
KS96HW 115	21	1	S
KS96HW 94	22	1	S-M S
G96047	23	2	S
G96134	24	1	S
G96135	25	2	S
G96044	26	1	S
NE95510	27	1	S
NE96573	28	1	S
TK1269	29	3	R
TB1071	30	3	R-M R
T108	31	1	S
T111	32	1	S
T112	33	1	S
T114	34	1	S
W 95-385	35	2	S
W 95-392	36	1	S
W 95-091	37	1	R
W 94-480W	38	1	S
W 95-610W	39	1	M S
XH1888	40	1	R
XH9806	41	1	S
XH9815	42	1	S
KS89180B-2-1-2	43	1	S
HBK0630-4-5	44	1	S-M S
NW 97S151	45	1	S

*1 = full requirement, no heading; 2=moderate requirement, headed but late maturing, 3=no requirement.

Table 1, contd.

Altus, Oklahoma, three replications			
line	entry	yield kg/ha	volum e weight kg/hl
TX95V5905	14	4040	79.3
KS96HW 94	22	3794	78.3
XH1888	40	3719	78.1
Trego	18	3668	79.2
G96047	23	3577	79.6
KS95H167-3	19	3542	78.6
OK96717	7	3515	80.4
W 95-610W	39	3508	79.1
XH9815	42	3493	78.8
OK94P549-2C	4	3492	79.6
W 94-480W	38	3477	76.7
XH9806	41	3447	78.2
OK95548-26C	8	3387	78.4
T108	31	3315	77.5
TX94V5922	12	3293	77.3
TX90A9528	11	3287	76.0
G96044	26	3237	78.6
KS96HW 115	21	3223	76.6
W 95-392	36	3174	79.1
OK95571	6	3160	78.2
TX95V4339	13	3095	77.6
TX95D8283	10	3078	76.1
W 95-385	35	3060	79.0
OK95616-14C	5	3039	74.5
CO950043	17	3016	77.1
CO940611	16	3011	77.8
TX93D2066	9	2976	77.9
T114	34	2968	75.6
NW 97S151	45	2960	73.4
T112	33	2954	77.6
TB1071	30	2896	77.0
HBK0630-4-5	44	2888	78.4
W 95-091	37	2877	77.6
G96135	25	2752	77.7
TX97V4311	15	2729	75.9
KS89180B-2-1-2	43	2703	75.5
G96134	24	2616	76.3
T111	32	2604	78.0
TAM 107	3	2603	75.1
NE96573	28	2422	76.3
KS96HW 10-3	20	2345	75.3
Scout66	2	2236	77.4
TK1269	29	2039	77.1
NE95510	27	2006	77.3
Kharkof	1	1608	76.8
mean		3041	77.5
lsd. (0.05)		515	1.6
c.v. (%)		10	1.0

Table 1, contd.

Goodwell (irrigated), Oklahoma, three replications			
line	entry	yield kg/ha	volum e weight kg/ha
KS96HW 94	22	6897	77.7
XH 9806	41	6895	77.9
Trego	18	6894	80.0
TX95V4339	13	6810	75.1
XH 9815	42	6794	77.0
W 95-610W	39	6791	79.5
TX90A9528	11	6690	76.0
TX93D2066	9	6684	75.8
OK95548-26C	8	6567	75.2
XH1888	40	6495	77.9
OK95571	6	6360	78.2
OK96717	7	6354	80.6
W 95-392	36	6327	80.0
KS95H167-3	19	6273	78.0
OK95616-14C	5	6252	76.0
TB1071	30	6243	78.2
OK94P549-2C	4	6237	78.3
TX94V5922	12	6183	78.0
T114	34	6141	76.8
G96044	26	6110	78.0
TX97V4311	15	6095	79.6
NW 97S151	45	6023	74.4
T108	31	6021	78.3
KS96HW 115	21	6010	78.6
CO940611	16	5935	79.0
NE95510	27	5916	76.3
KS96HW 10-3	20	5855	77.9
CO950043	17	5778	78.2
G96047	23	5763	76.4
HBK0630-4-5	44	5739	78.1
T112	33	5628	77.2
W 94-480W	38	5617	76.4
TX95V5905	14	5608	77.2
TAM 107	3	5604	77.3
TK1269	29	5547	78.8
NE96573	28	5317	73.9
KS89180B-2-1-2	43	5304	75.0
W 95-091	37	5218	78.2
W 95-385	35	5190	79.3
G96134	24	4971	75.5
TX95D8283	10	4608	74.6
T111	32	4594	78.0
G96135	25	4324	76.6
Scout66	2	4193	78.7
Kharkof	1	3384	77.1
mean		5872	77.4
lsd. (0.05)		854	1.0
c.v. (%)		9	0.6

Table 1, contd.

Lahom a, Oklahom a, three replications			
line	entry	yield kg/ha	volum e weight kg/hl
OK96717	7	4071	73.9
W 95-091	37	3895	69.6
W 95-385	35	3832	72.3
XH9815	42	3738	68.4
OK95616-14C	5	3720	67.9
HBK0630-4-5	44	3696	70.6
OK95571	6	3547	69.8
KS89180B-2-1-2	43	3509	68.3
KS96HW 94	22	3466	67.2
G96047	23	3391	69.1
KS96HW 115	21	3359	67.2
Trego	18	3327	71.0
T112	33	3315	68.5
CO940611	16	3313	71.3
W 95-392	36	3269	73.9
XH9806	41	3246	67.7
TX95V4339	13	3200	65.9
G96135	25	3173	71.6
XH1888	40	3155	70.5
G96134	24	3111	66.5
NE95510	27	3078	68.9
T108	31	3042	65.0
TX94V5922	12	3027	67.6
OK94P549-2C	4	2986	68.8
TX90A9528	11	2982	64.3
OK95548-26C	8	2975	64.8
W 94-480W	38	2949	67.3
T111	32	2927	69.5
KS96HW 10-3	20	2907	69.0
G96044	26	2839	68.9
TX95D8283	10	2794	68.7
KS95H167-3	19	2774	67.2
T114	34	2712	64.3
NW 97S151	45	2658	61.3
TX93D2066	9	2540	66.8
NE96573	28	2458	62.1
TX95V5905	14	2354	66.9
TAM 107	3	2281	62.5
W 95-610W	39	2240	63.0
TX97V4311	15	2151	59.7
CO950043	17	1955	59.4
TB1071	30	1779	65.3
Kharkof	1	1459	66.0
Scout66	2	1312	63.3
TK1269	29	883	62.8
mean		2920	67.2
lsd. (0.05)		778	3.0
c.v. (%)		16	2.2

Table 1, contd.

Stillwater, Oklahoma, three replications					
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1
XH1888	40	3991	77.5	87	113
W 95-385	35	3883	77.8	84	111
W 95-392	36	3700	78.8	77	111
TX95V5905	14	3680	77.9	82	113
TX95V4339	13	3668	76.3	80	113
OK95571	6	3632	77.4	79	111
W 95-091	37	3562	78.9	85	114
XH9806	41	3526	78.2	86	114
HBK0630-4-5	44	3451	76.7	79	112
OK94P549-2C	4	3445	78.0	78	112
Trego	18	3397	78.9	80	112
CO950043	17	3386	75.1	86	111
G96047	23	3371	78.7	81	112
T112	33	3364	75.1	77	112
KS96HW 94	22	3356	77.5	96	117
OK95548-26C	8	3295	76.0	72	110
T114	34	3284	75.1	78	112
TX94V5922	12	3263	75.9	77	112
TAM 107	3	3225	74.4	85	110
OK96717	7	3222	79.6	85	112
KS95H167-3	19	3211	76.6	85	112
OK95616-14C	5	3209	75.4	78	111
XH9815	42	3191	77.5	80	111
NE95510	27	3116	77.3	94	121
T111	32	3107	75.9	77	111
G96135	25	3068	78.1	79	110
W 94-480W	38	3068	76.6	85	116
KS96HW 115	21	2998	76.2	81	111
KS89180B-2-1-2	43	2917	75.1	79	112
TX90A9528	11	2903	73.8	85	116
T108	31	2888	75.0	72	112
CO940611	16	2854	77.0	89	114
TX95D8283	10	2814	74.2	73	114
G96134	24	2808	76.1	76	111
NW 97S151	45	2748	72.0	83	116
NE96573	28	2663	74.2	92	120
W 95-610W	39	2655	77.2	85	119
KS96HW 10-3	20	2639	77.9	81	113
G96044	26	2496	76.9	78	109
TB1071	30	2488	74.8	70	115
TX97V4311	15	2465	76.3	71	104
Scout66	2	2279	75.9	105	119
TX93D2066	9	2043	74.5	81	114
TK1269	29	1941	70.5	78	117
Kharkof	1	1848	77.5	103	126
mean		3069	76.4	82	113
ls.d. (0.05)		570	1.6		
c.v. (%)		11	1.3		

Table 1, contd.

Hays, Kansas, three replications

line	entry	yield kg/ha	volume weight kg/hl	plant height cm	days to heading from 1/1	WSMV*	head shattering 0-9
XH1888	40	6020	77.7	108	134	6	3
HBK0630-4-5	44	5960	78.2	103	134	9	3
XH9806	41	5843	77.2	98	134	4	2
OK94P549-2C	4	5774	78.9	99	133	7	2
OK95616-14C	5	5761	76.2	104	132	4	2
OK96717	7	5693	79.5	104	134	7	2
Trego	18	5601	79.7	102	134	5	2
W95-091	37	5563	77.7	104	132	9	4
TX94V5922	12	5554	75.6	99	133	4	3
G96047	23	5528	77.6	97	134	6	2
KS96HW115	21	5499	78.0	102	134	4	2
XH9815	42	5492	77.1	97	133	6	2
T108	31	5407	78.0	95	133	9	2
W95-610W	39	5364	77.5	92	135	4	2
TX90A9528	11	5362	75.5	98	135	8	2
W95-385	35	5313	79.6	104	134	6	4
TX95V5905	14	5288	75.9	99	132	5	4
TX97V4311	15	5285	75.6	88	130	8	2
OK95571	6	5283	76.4	102	133	7	2
KS89180B-2-1-2	43	5266	75.9	96	134	8	4
C0940611	16	5232	79.5	103	134	6	2
TX95D8283	10	5199	74.3	97	135	8	3
KS96HW10.3	20	5183	79.1	98	135	1	2
T114	34	5181	75.6	102	133	9	2
C0950043	17	5157	77.7	102	133	8	2
TX95V4339	13	5127	75.5	93	135	9	2
KS96HW94	22	5108	76.5	98	135	4	2
W94-480W	38	5067	78.6	107	135	7	2
TAM107	3	5056	75.4	98	132	5	2
OK95548-26C	8	4977	75.5	92	132	8	3
W95-392	36	4934	79.6	96	133	5	2
T112	33	4865	76.8	98	133	5	3
TX93D2066	9	4859	77.1	107	135	7	3
NE96573	28	4855	72.1	109	136	8	2
G96134	24	4851	76.1	98	133	9	2
T111	32	4777	78.1	101	133	6	4
KS95H167-3	19	4691	77.2	104	134	5	2
G96044	26	4546	77.0	97	132	5	2
NW97S151	45	4533	71.9	100	134	9	3
NE95510	27	4391	76.0	102	137	7	3
G96135	25	4218	77.0	99	132	9	3
Scout66	2	3943	78.1	114	135	8	2
Kharkof	1	3388	76.5	133	140	8	3
TB1071	30	3074	76.2	87	135	7	2
TK1269	29	3060	75.7	100	135	9	2
mean		5047	76.9	101	134	7	
I.s.d. (0.05)		701	0.6				
c.v. (%)		9	0.8				

*WSMV = reaction (0-9) to wheat streak mosaic virus

Table 1, contd. Colby, Kansas, three replications

line	entry	yield kg/ha	volume weight kg/hl	plant height cm	days to heading from 1/1	head shattering 0-9
XH9806	41	6056	75.8	88	140	5
Trego	18	6020	78.9	86	141	2
XH1888	40	5937	75.3	95	141	5
OK94P549-2C	4	5806	78.0	86	139	3
TX97V4311	15	5698	76.4	78	134	4
KS96HW10.3	20	5686	79.7	85	141	2
CO940611	16	5602	77.5	93	139	2
TX94V5922	12	5569	75.9	91	137	3
KS96HW94	22	5338	75.4	88	139	3
OK95571	6	5283	76.2	91	136	5
TX95V5905	14	5275	75.8	88	137	4
W95-610W	39	5270	76.3	81	140	2
OK96717	7	5266	78.8	93	140	2
OK95616-14C	5	5224	74.3	85	136	4
KS95H167-3	19	5146	75.2	93	140	2
W95-392	36	5108	76.5	86	138	4
KS96HW115	21	5095	75.3	91	140	5
TX93D2066	9	5087	76.9	97	142	4
W94-480W	38	5078	74.7	90	140	4
G96047	23	5074	76.7	85	141	4
TX95V4339	13	5054	74.9	86	141	3
XH9815	42	5005	75.9	83	138	2
KS89180B-2-1-2	43	4790	75.4	83	141	6
TX95D8283	10	4773	72.5	90	142	6
W95-385	35	4770	63.3	83	139	5
TX90A9528	11	4728	73.4	88	140	3
W95-091	37	4594	76.4	93	137	7
NW97S151	45	4579	70.3	88	140	4
NE96573	28	4506	70.8	98	141	4
T108	31	4452	74.7	81	138	4
G96044	26	4428	76.2	85	136	5
NE95510	27	4396	74.7	93	142	5
G96134	24	4363	73.2	85	138	4
T112	33	4359	73.3	331	138	4
CO950043	17	4327	75.3	86	139	4
HBK0630-4-5	44	4206	74.6	86	141	7
OK95548-26C	8	4146	72.9	78	137	3
T114	34	3988	71.7	86	137	3
T111	32	3965	74.6	83	137	6
TAM107	3	3916	73.8	88	135	2
Scout66	2	3714	77.4	108	138	3
G96135	25	3561	73.1	85	138	4
Kharkof	1	3029	75.8	122	145	6
TB1071	30	2773	73.6	69	142	2
TK1269	29	2630	74.3	80	141	5
mean		4748	74.9	94	139	4
I.s.d. (0.05)		420	5.4			
c.v. (%)		5	4.4			

Table 1, contd.

W ichita, Kansas, three replications		
line	entry	yield kg/ha
T111	32	1499
T112	33	1497
T108	31	1357
KS96HW 94	22	1299
NE95510	27	1261
W 95-392	36	1228
KS96HW 115	21	1222
G96135	25	1221
G96047	23	1209
XH1888	40	1174
W 95-091	37	1165
W 94-480W	38	1163
XH9815	42	1154
G96134	24	1142
KS89180B-2-1-2	43	1128
HBK0630-4-5	44	1058
XH9806	41	1048
TX95V4339	13	1015
G96044	26	1009
TX94V5922	12	998
TX97V4311	15	994
OK95616-14C	5	992
OK95548-26C	8	987
CO940611	16	958
W 95-610W	39	957
W 95-385	35	933
OK95571	6	925
KS96HW 10-3	20	922
NW 97S151	45	906
Trego	18	823
TB1071	30	808
T114	34	731
TX95D8283	10	620
OK96717	7	608
CO950043	17	566
TX90A9528	11	523
OK94P549-2C	4	499
TX93D2066	9	408
TX95V5905	14	380
TK1269	29	338
NE96573	28	330
TAM 107	3	278
KS95H167-3	19	208
Scout66	2	199
Kharkof	1	106
mean		886
LSD. (0.05)		256
c.v. (%)		18

Table 1, contd.

Salina, Kansas, three replications		
line	entry	yield kg/ha
W 95-392	36	4870
OK95548-26C	8	4533
XH1888	40	4497
KS96HW 115	21	4468
KS96HW 94	22	4458
NE95510	27	4431
XH9806	41	4371
G96044	26	4352
OK94P549-2C	4	4340
TX95V4339	13	4321
TX90A9528	11	4318
T108	31	4301
TX95V5905	14	4233
W 95-610W	39	4217
W 95-385	35	4217
OK95571	6	4202
Trego	18	4154
KS95H167-3	19	4096
OK96717	7	4079
TX97V4311	15	4075
XH9815	42	4072
CO940611	16	4043
TAM 107	3	3981
OK95616-14C	5	3899
TX94V5922	12	3887
TX95D8283	10	3870
HBK0630-4-5	44	3860
T112	33	3858
G96134	24	3835
W 94-480W	38	3834
NE96573	28	3797
CO950043	17	3779
T111	32	3691
TX93D2066	9	3650
TB1071	30	3626
NW97S151	45	3626
KS89180B-2-1-2	43	3576
T114	34	3556
G96135	25	3498
W 95-091	37	3479
G96047	23	3443
KS96HW 10-3	20	3438
Scout66	2	3301
TK1269	29	2922
Kharkof	1	2221
mean		3939
ls.d. (0.05)		644
c.v. (%)		10

Table 1, contd.

Garden City, Kansas, three replications					
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1
OK96717	7	6518	78.3	105	136
XH1888	40	6475	76.9	105	138
OK94P549-2C	4	6210	77.3	97	136
OK95571	6	6023	77.5	98	137
KS96HW 115	21	6002	76.7	102	139
XH9815	42	5978	76.3	97	137
CO940611	16	5836	77.7	102	138
OK95616-14C	5	5779	75.6	98	133
T108	31	5716	76.0	95	136
HBK0630-4-5	44	5696	76.5	95	139
W 95-610W	39	5654	75.1	92	141
W 94-480W	38	5608	76.5	105	141
Trego	18	5584	77.8	98	140
KS89180B-2-1-2	43	5551	74.4	93	141
CO950043	17	5528	76.9	102	136
G96047	23	5442	75.2	97	140
KS96HW 94	22	5364	74.8	97	140
XH9806	41	5350	74.0	100	141
W 95-091	37	5347	75.2	100	139
KS95H167-3	19	5281	75.6	102	139
TX90A9528	11	5270	73.5	103	141
NE96573	28	5266	72.0	105	141
W 95-392	36	5258	77.5	95	136
TX95D8283	10	5248	73.3	98	141
TX95V4339	13	5245	72.0	97	141
TX95V5905	14	5178	73.3	93	131
TAM 107	3	5153	75.5	95	131
OK95548-26C	8	5147	75.2	90	136
TX93D2066	9	5134	75.2	105	141
T112	33	5130	76.6	95	134
W 95-385	35	5121	76.9	97	139
G96134	24	5101	75.6	97	137
TX94V5922	12	5052	74.9	98	136
T114	34	5037	74.3	97	135
NE95510	27	5001	75.4	108	142
TX97V4311	15	4956	75.5	85	131
T111	32	4935	75.9	97	137
KS96HW 10-3	20	4933	77.4	95	141
G96044	26	4708	75.1	95	136
NW 97S151	45	4684	70.3	97	141
G96135	25	4545	75.3	97	136
TK1269	29	3951	74.1	83	141
Scout66	2	3603	76.7	113	141
TB1071	30	3317	72.6	77	140
Kharkof	1	2866	73.7	128	145
mean		5217	75.4	98	138
lsd. (0.05)		882	1.4		
c.v. (%)		10	1.1		

Table 1, contd.

Hutchinson, Kansas, three replications			
line	entry	yield kg/ha	volum e weight kg/hl
HBK0630-4-5	44	3900	75.9
T111	32	3367	76.6
OK96717	7	3308	77.2
W 95-091	37	3267	74.2
OK95616-14C	5	3243	73.0
TX95V5905	14	3172	74.4
G96135	25	3042	77.0
TX95D8283	10	3018	74.6
T112	33	2935	75.0
OK95548-26C	8	2923	75.4
W 95-392	36	2894	75.6
XH 9806	41	2835	74.8
OK95571	6	2823	72.5
W 95-385	35	2764	76.3
XH 9815	42	2752	75.9
CO950043	17	2699	74.7
KS89180B-2-1-2	43	2669	72.8
XH 1888	40	2622	74.6
OK94P549-2C	4	2592	75.8
TX93D2066	9	2592	75.0
TX95V4339	13	2568	71.9
Trego	18	2533	75.6
CO940611	16	2521	75.4
TAM 107	3	2486	71.8
TX97V4311	15	2456	70.6
KS96HW115	21	2421	74.5
TK1269	29	2349	74.2
G96044	26	2349	74.0
TX94V5922	12	2337	72.6
KS96HW 94	22	2308	74.9
W 94-480W	38	2267	73.9
KS95H167-3	19	2190	76.3
G96134	24	2178	71.9
T108	31	2077	73.4
NE96573	28	2000	68.5
T114	34	1971	72.6
TX90A9528	11	1965	72.1
NE95510	27	1935	75.3
NW 97S151	45	1911	69.7
G96047	23	1622	71.7
KS96HW 10-3	20	1604	73.8
TB1071	30	1533	72.9
Scout66	2	1349	76.2
W 95-610W	39	1243	72.8
Kharkof	1	911	76.2
mean		2456	74.1
Ls.d. (0.05)		608	1.7
c.v. (%)		15	1.5

Table 1, contd.

Manhattan, Kansas, three replications						
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1	leaf rust reaction type
W 95-091	37	3882	73.2	105	131	0
T111	32	3823	75.0	70	128	90S
H BK0630-4-5	44	3776	73.8	105	131	TM S
TX95D8283	10	3758	72.7	102	133	R
TX95V5905	14	3628	70.9	97	125	R
T112	33	3575	73.7	102	128	90S
XH9806	41	3332	71.9	100	132	20M S
G96135	25	3314	72.9	103	130	80S
W 95-392	36	3314	70.7	102	130	60S
CO950043	17	3255	73.5	107	129	90S
KS96HW 115	21	3255	71.7	108	130	100S
OK96717	7	3231	77.1	112	129	TM S
OK95571	6	3202	72.9	107	127	70S
XH1888	40	3160	73.3	108	131	0
OK95548-26C	8	3142	72.0	97	126	5M S
G96047	23	3131	70.5	103	131	40M S
W 95-385	35	3089	74.1	107	130	50M S
OK95616-14C	5	3077	73.2	107	129	80S
XH9815	42	3072	72.9	97	129	TM S
TX95V4339	13	3018	71.4	93	134	R
KS89180B-2-1-2	43	3006	70.3	93	131	0
KS95H167-3	19	2953	75.4	117	130	TM S
KS96HW 94	22	2847	72.8	107	134	60M S
OK94P549-2C	4	2817	75.4	103	129	R
CO940611	16	2734	71.8	105	129	90S
TX93D2066	9	2722	72.3	105	131	TM S
NE95510	27	2710	72.4	117	136	10M S
T108	31	2687	70.9	100	129	100M S
G96134	24	2687	70.5	100	129	90S
TX94V5922	12	2616	73.1	105	128	30M S
W 94-480W	38	2610	70.4	112	135	80S
TK1269	29	2575	74.8	95	135	R
NW 97S151	45	2503	67.9	105	133	TM S
Trego	18	2480	73.8	105	130	10M S
TAM 107	3	2438	71.1	107	125	90S
W 95-610W	39	2408	73.4	93	134	10M R
G96044	26	2314	72.8	103	129	90S
TX90A9528	11	2273	71.9	105	134	90S
KS96HW 10-3	20	2178	72.8	102	131	100S
TX97V4311	15	2137	73.0	92	124	R
TB1071	30	2119	72.2	82	132	10M S
T114	34	1935	69.6	102	129	R
NE96573	28	1894	69.7	108	136	60M S
Scout66	2	1385	72.6	120	135	90S
Kharkof	1	1320	74.0	110	137	90S
mean		2831	72.5	103	131	
lsd. (0.05)		650	2.7			
c.v. (%)		14	2.3			

Table 1, contd. Akron, Colorado, three replications

line	entry	yield kg/ha	volume weight kg/hl	plant height cm	days to heading from 1/1
W94-480W	38	5288	79.2	83	146
KS96HW94	22	5017	78.6	75	146
KS96HW115	21	4997	78.0	77	145
XH1888	40	4980	76.3	80	148
XH9815	42	4921	77.4	74	145
NW97S151	45	4882	74.2	70	146
G96134	24	4843	76.0	70	144
Akron		4827	77.0	77	146
TAM107	3	4790	76.2	73	142
NE96573	28	4784	75.3	79	146
Prowers		4776	78.9	90	148
OK94P549-2C	4	4725	78.6	74	144
T112	33	4681	77.9	74	144
TX90A9528	11	4653	75.8	72	145
CO940611	16	4613	79.6	75	145
XH9806	41	4602	77.1	75	146
KS95H167-3	19	4591	78.1	76	146
CO950043	17	4526	78.1	76	144
W95-392	36	4473	80.2	71	145
OK95548-26C	8	4437	76.9	58	144
TX95D8283	10	4420	74.3	76	147
W95-091	37	4398	75.6	75	144
TX95V4339	13	4350	75.4	70	146
KS89180B-2-1-2	43	4339	74.1	70	150
G96135	25	4316	75.8	70	144
W95-385	35	4302	78.7	73	145
Prairie Red		4277	77.4	70	142
T114	34	4274	75.4	73	144
NE84557		4258	78.9	81	147
OK95571	6	4241	77.7	76	144
TX93D2066	9	4227	76.3	75	147
W95-610W	39	4218	78.6	68	148
Trego	18	4196	79.2	70	148
T108	31	4171	77.8	66	144
HBK0630-4-5	44	4168	75.1	70	147
Arlin		4098	78.2	65	142
OK95616-14C	5	4087	77.5	68	144
G96044	26	4011	77.6	71	145
OK96717	7	3989	78.3	69	145
KS96HW10-3	20	3938	78.1	69	150
TX94V5922	12	3919	77.1	72	145
NE95510	27	3916	76.3	75	146
TX95V5905	14	3913	76.7	69	145
Scout66	2	3807	77.9	87	145
G96047	23	3527	77.8	72	147
TB1071	30	3325	74.8	59	148
TK1269	29	3308	74.5	66	146
Kharkof	1	3185	74.7	94	153
TX97V4311	15	3182	76.8	64	144
T111	32	2913	77.5	71	144
mean		4294	77.1	73	146
I.s.d. (0.05)		1090	1.5		
C.V. (%)		16	1.2		

Table 1, contd. Burlington, Colorado, three replications

line	entry	yield kg/ha	volume weight kg/hl	days to heading from 1/1
KS89180B-2-1-2	43	4479	78.0	144
XH9806	41	4179	77.5	143
Akron		4064	76.7	144
W95-392	36	3963	80.1	142
KS95H167-3	19	3888	78.6	141
TX95V5905	14	3823	77.0	140
W95-385	35	3801	78.3	142
W95-610W	39	3731	78.9	141
HBK0630-4-5	44	3706	78.4	144
OK95616-14C	5	3664	77.2	140
OK95548-26C	8	3577	76.9	140
CO950043	17	3574	77.9	143
XH9815	42	3555	76.6	142
NW97S151	45	3468	74.2	143
Prowers		3434	78.1	145
W94-480W	38	3381	80.1	143
G96135	25	3358	78.8	141
OK96717	7	3353	80.2	143
T111	32	3328	78.3	141
Praire Red		3311	76.5	138
W95-091	37	3272	78.1	139
T112	33	3232	77.7	140
TX95D8283	10	3204	77.3	143
TX90A9528	11	3146	77.6	142
NE95510	27	3143	78.3	146
Arlin		3120	79.8	137
T114	34	3112	75.5	142
T108	31	3087	77.6	141
Trego	18	3084	80.0	143
G96047	23	3017	77.1	144
OK94P549-2C	4	2969	77.8	142
KS96HW115	21	2950	78.7	143
TX93D2066	9	2924	75.7	144
Scout66	2	2871	78.0	141
XH1888	40	2832	76.6	143
CO940611	16	2807	77.8	143
NE84557		2795	80.3	143
G96134	24	2678	77.5	141
TX94V5922	12	2644	76.7	141
KS96HW94	22	2636	77.5	140
OK95571	6	2605	75.9	140
KS96HW10-3	20	2588	78.0	144
TX95V4339	13	2471	73.6	144
G96044	26	2302	74.5	139
TX97V4311	15	2059	74.4	141
TB1071	30	2039	74.4	144
Kharkof	1	2011	77.9	147
TAM107	3	2008	75.5	138
NE96573	28	1807	74.6	144
TK1269	29	1555	74.4	144
mean		3092	77.3	142
I.s.d. (0.05)		1134	1.8	
C.V. (%)		23	2.2	

Table 1, contd. Julesburg, Colorado, three replications

line	entry	yield kg/ha	volume weight kg/hl	plant height cm	lodging %
XH1888	40	4426	75.8	90	57
T108	31	4322	76.0	85	30
CO950043	17	4249	77.4	93	37
Trego	18	4207	78.0	88	27
W95-091	37	4188	78.3	88	50
W95-385	35	4053	79.1	89	43
OK95571	6	4048	76.8	89	47
OK94P549-2C	4	4039	74.6	89	20
T111	32	3994	77.7	90	40
W95-392	36	3994	79.8	84	40
T112	33	3947	77.1	84	37
HBK0630-4-5	44	3947	77.6	84	23
W95-610W	39	3885	78.3	80	27
OK96717	7	3854	78.2	92	47
KS96HW94	22	3849	76.2	88	27
XH9806	41	3832	75.4	86	23
OK95616-14C	5	3826	75.5	84	43
TX95V5905	14	3826	77.0	86	37
Akron		3818	76.2	91	50
TX95V4339	13	3815	75.6	82	37
TX90A9528	11	3798	77.1	86	50
XH9815	42	3798	76.4	91	33
G96047	23	3793	76.6	86	30
OK95548-26C	8	3779	78.0	77	20
KS96HW10-3	20	3776	76.6	88	47
Prairie Red		3740	76.5	85	57
TX94V5922	12	3695	75.5	86	40
KS96HW115	21	3686	76.1	89	43
CO940611	16	3653	78.3	93	50
Arlin		3645	76.3	85	53
G96135	25	3605	78.2	88	23
KS89180B-2-1-2	43	3591	77.3	81	10
TX93D2066	9	3577	75.5	91	30
NW97S151	45	3569	73.8	87	33
KS95H167-3	19	3490	75.3	92	53
TAM107	3	3482	75.4	86	60
TB1071	30	3465	77.5	75	37
NE96573	28	3431	73.2	95	60
NE95510	27	3381	76.0	89	57
TX97V4311	15	3342	75.5	85	63
G96044	26	3339	76.5	84	43
G96134	24	3330	76.6	85	30
TX95D8283	10	3322	73.2	86	23
W94-480W	38	3241	75.6	96	50
Prowers		3232	78.8	106	63
T114	34	3092	74.7	86	33
TK1269	29	3062	75.4	84	30
Scout66	2	2997	76.0	111	77
		2927	77.4	103	43
Kharkof	1	2364	78.3	110	37
mean		3666	76.6	89	40
I.s.d. (0.05)		604	2.1		
C.v. (%)		10	1.7		

Table 1, contd. Fort Collins, Colorado, three replications

line	entry	yield kg/ha	volume weight kg/hl	plant height cm	days to heading from 1/1
XH1888	40	7118	79.3	97	151
W95-385	35	6579	81.5	88	149
XH9806	41	6401	79.5	90	151
NE96573	28	6344	76.5	101	151
TX90A9528	11	6340	78.4	91	150
CO950043	17	6249	80.6	94	150
W95-392	36	6159	81.7	87	148
HBK0630-4-5	44	6115	79.5	86	151
OK95548-26C	8	6103	80.3	79	147
W95-091	37	6053	79.4	89	147
TX93D2066	9	5990	79.2	99	153
Prairie Red		5947	80.0	88	148
KS96HW115	21	5891	80.4	97	150
Prowers		5859	81.9	111	152
TX95V5905	14	5792	79.8	91	148
Akron		5788	79.3	98	152
W94-480W	38	5755	81.4	100	150
KS96HW94	22	5718	81.2	90	151
TX95V4339	13	5708	77.6	86	152
CO940611	16	5699	81.3	96	150
TX94V5922	12	5682	80.6	90	149
OK95571	6	5655	80.1	88	147
T111	32	5632	80.8	85	149
NW97S151	45	5603	78.0	94	152
KS95H167-3	19	5590	80.0	98	150
T112	33	5577	80.2	80	148
W95-610W	39	5523	80.7	83	150
KS89180B-2-1-2	43	5487	76.4	90	153
T114	34	5481	78.4	90	149
G96044	26	5465	79.3	92	148
Arlin		5296	80.3	80	146
TX95D8283	10	5283	77.1	93	153
G96047	23	5277	78.9	90	152
T108	31	5262	79.5	88	150
TAM107	3	5249	79.2	90	147
TX97V4311	15	5227	81.0	80	148
NE95510	27	5190	78.3	94	153
XH9815	42	5185	80.3	88	148
OK95616-14C	5	5183	78.7	88	148
OK96717	7	5137	81.8	93	148
OK94P549-2C	4	5089	79.9	89	148
KS96HW10-3	20	4984	80.5	89	152
TB1071	30	4982	78.6	77	148
NE84557		4954	81.7	105	154
G96135	25	4933	79.4	89	149
G96134	24	4834	77.6	85	150
Trego	18	4812	81.1	90	152
TK1269	29	4434	77.9	93	150
Scout66	2	3804	80.1	110	148
Kharkof	1	3763	79.4	126	155
mean		5511	79.7	92	150
I.s.d. (0.05)		785	1.0		
c.v. (%)		9	0.7		

Table 1, contd. Walsh, Colorado, three replications

line	entry	yield kg/ha	volume weight kg/hl	plant height cm	days to heading from 1/1
Trego	18	5073	79.9	91	140
XH9806	41	4933	80.1	85	139
XH1888	40	4874	76.9	91	141
KS95H167-3	19	4725	76.7	91	139
CO950043	17	4667	80.8	85	139
W95-610W	39	4627	77.9	77	139
W95-392	36	4580	81.1	89	138
Prowers		4538	74.2	106	141
OK95616-14C	5	4529	78.1	84	137
W94-480W	38	4476	79.2	96	140
NE96573	28	4344	74.4	96	140
KS96HW10-3	20	4339	81.1	87	140
HBK0630-4-5	44	4316	79.8	89	139
TX90A9528	11	4294	76.9	90	139
Prairie Red		4272	77.8	80	136
CO940611	16	4246	81.0	84	140
OK95571	6	4206	79.3	88	137
KS89180B-2-1-2	43	4140	73.7	82	139
TX94V5922	12	4126	77.5	81	137
XH9815	42	4106	77.8	80	138
TX97V4311	15	4090	81.7	75	137
OK94P549-2C	4	4087	79.7	82	138
T108	31	4042	77.9	80	139
Akron		4008	73.7	91	140
Scout66	2	4008	80.1	115	137
G96044	26	4000	73.5	85	137
TX93D2066	9	3997	76.5	98	141
W95-385	35	3986	81.6	85	138
TX95V4339	13	3966	76.8	85	140
OK96717	7	3877	79.8	93	139
TAM107	3	3865	79.8	80	137
G96047	23	3840	79.6	86	140
Arlin		3748	79.7	80	135
TX95V5905	14	3703	77.0	88	139
NE95510	27	3697	78.3	96	141
KS96HW115	21	3669	75.5	84	139
NW97S151	45	3661	75.1	85	137
KS96HW94	22	3602	78.3	82	139
W95-091	37	3552	75.9	84	136
T114	34	3454	76.6	80	137
TX95D8283	10	3356	73.1	84	141
OK95548-26C	8	3165	74.3	78	139
T111	32	3160	77.0	81	137
T112	33	3104	75.7	81	137
G96135	25	2798	75.5	84	139
Kharkof	1	2793	78.2	134	143
G96134	24	2753	75.6	81	140
NE84557		2725	80.0	93	141
TK1269	29	2557	76.2	85	142
TB1071	30	2490	74.5	68	140
mean		3903	77.6	87	139
I.s.d. (0.05)		916	2.8		
c.v. (%)		15	2.2		

Table 1, contd.

Lincoln, Nebraska, three replications					
line	entry	yield kg/ha	volum e weight kg/hl	days to heading from 1/1	plant height cm
T108	31	5530	75.6	142	93
OK95616-14C	5	5341	74.1	142	98
XH1888	40	5313	74.5	144	109
OK96717	7	5272	78.9	144	107
W 95-091	37	5251	74.8	142	103
W 94-480W	38	5249	74.5	143	107
XH9806	41	5235	74.8	144	100
HBK0630-4-5	44	5220	74.8	144	97
KS95H167-3	19	5135	74.1	144	107
XH9815	42	5110	75.2	143	103
KS96HW 115	21	5017	74.8	144	103
T111	32	4979	76.3	142	99
CO940611	16	4971	75.2	143	100
TX95V5905	14	4947	73.7	142	89
CO950043	17	4818	76.7	141	97
Trego	18	4816	76.3	144	95
TX93D2066	9	4805	72.6	144	109
G96134	24	4771	74.8	142	97
TX95D8283	10	4729	71.9	144	105
KS89180B-2-1-2	43	4722	73.0	143	97
OK94P549-2C	4	4682	75.9	142	98
G96135	25	4665	75.2	141	98
TAM 107	3	4625	72.2	141	103
T114	34	4556	73.3	143	104
KS96HW 94	22	4537	74.8	143	98
W 95-610W	39	4490	75.2	145	91
TX94V5922	12	4416	72.6	143	98
OK95571	6	4321	74.1	144	99
W 95-385	35	4279	77.0	141	100
G96047	23	4243	75.2	143	91
TX97V4311	15	4228	70.0	143	85
T112	33	4212	75.9	141	98
NE96573	28	4163	70.0	145	104
OK95548-26C	8	4100	71.9	141	89
G96044	26	4070	74.1	142	93
TX90A9528	11	3995	71.5	143	99
W 95-392	36	3960	77.0	143	98
NE95510	27	3865	73.7	146	107
TX95V4339	13	3846	70.0	145	93
KS96HW 10.3	20	3572	70.8	143	91
NW 97S151	45	3290	69.3	146	105
Scout66	2	2801	73.3	144	108
Kharkof	1	2660	72.2	149	121
mean		4530	74.0	143	100
ls.d. (0.05)		660			
c.v. (%)		9			

Table 1, contd.

Clay Center, Nebraska, three replications				
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm
HBK0630-4-5	44	3524	77.4	91
OK96717	7	3181	77.4	104
XH9806	41	3053	74.5	97
KS89180B-2-1-2	43	3020	73.3	86
XH1888	40	2870	76.7	102
G96135	25	2783	78.9	94
W 95-091	37	2767	75.9	91
OK95548-26C	8	2753	73.3	84
G96047	23	2659	80.0	91
T112	33	2634	74.8	94
NE95510	27	2576	77.0	99
OK95616-14C	5	2553	74.5	91
TX95D8283	10	2547	75.2	99
T111	32	2532	77.4	91
CO940611	16	2497	74.5	97
NE96573	28	2473	74.8	97
W 95-385	35	2464	77.0	91
CO950043	17	2462	75.6	97
TX95V5905	14	2400	70.0	81
T108	31	2317	72.2	91
NW 97S151	45	2171	68.2	91
Trego	18	2153	77.0	97
XH9815	42	2094	71.9	71
TX95V4339	13	2083	74.5	86
W 95-392	36	2072	78.1	94
W 95-610W	39	2059	74.1	89
T114	34	2025	71.1	94
KS95H167-3	19	2022	75.2	97
TX93D2066	9	1954	75.6	94
OK94P549-2C	4	1949	75.6	89
KS96HW 94	22	1949	74.8	97
KS96HW 115	21	1891	72.6	91
TX94V5922	12	1870	74.1	89
G96134	24	1844	72.6	91
OK95571	6	1806	71.9	89
W 94-480W	38	1662	75.6	104
G96044	26	1561	71.9	86
TX90A9528	11	1560	71.5	99
TAM 107	3	1537	70.8	94
TX97V4311	15	1234		64
KS96HW 10.3	20	1092	75.6	102
Kharkof	1	1060		107
Scout66	2	1059	74.1	102
mean		2204	74.6	93
ls.d. (0.05)		789		
c.v. (%)		22		

Table 1, contd.

North Platte, Nebraska, three replications				
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm
TX90A9528	11	5316	80.0	89
OK96717	7	5055	82.2	94
XH9806	41	4989	80.7	91
W95-610W	39	4888	81.5	94
KS89180B-2-1-2	43	4799	81.1	84
NW97S151	45	4747	78.5	91
CO950043	17	4514	80.7	94
XH9815	42	4514	80.7	91
TX95D8283	10	4432	78.5	86
HBK0630-4-5	44	4353	82.9	89
Trego	18	4345	83.7	89
W95-385	35	4256	81.5	91
TX93D2066	9	4255	80.0	97
W95-392	36	4226	81.5	86
W95-091	37	4198	80.3	84
TX94V5922	12	4192	80.3	86
KS96HW115	21	4192	82.2	89
OK95571	6	4144	80.3	86
G96047	23	4116	83.7	89
NE96573	28	4082	78.1	91
T112	33	4061	80.3	81
TX95V4339	13	4055	81.5	84
XH1888	40	4046	81.8	81
T111	32	4043	82.2	86
G96044	26	4035	80.7	84
NE95510	27	4018	80.0	94
W94-480W	38	4004	79.6	91
KS95H167-3	19	3994	80.3	97
TAM 107	3	3988	82.6	91
TX95V5905	14	3973	75.6	76
OK94P549-2C	4	3915	80.0	86
OK95548-26C	8	3915	80.0	79
TX97V4311	15	3820	80.3	76
KS96HW10.3	20	3773	80.7	91
G96134	24	3737	79.2	91
OK95616-14C	5	3685	77.4	89
KS96HW94	22	3639	82.9	86
T108	31	3629	80.0	81
T114	34	3621	78.1	89
G96135	25	3471	81.5	89
Kharkof	1	3203	81.8	114
CO940611	16	3054	81.8	97
Scout66	2	2850	81.1	107
mean		4096	80.6	89
ls.d. (0.05)		ns		
c.v. (%)		18		
ns=non significant F test in analysis of variance				

Table 1, contd.

Alliance, Nebraska, three replications				
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm
CO950043	17	4358	73.7	81
XH9815	42	4235	75.6	91
Trego	18	4171	76.3	86
OK95571	6	4080	71.5	86
TX90A9528	11	4035	70.0	86
XH1888	40	4028	73.0	81
NE96573	28	3941	68.6	94
KS89180B-2-1-2	43	3880	71.9	84
TAM 107	3	3864	73.3	86
W 94-480W	38	3830	72.6	86
T111	32	3727	74.1	89
OK94P549-2C	4	3671	72.6	89
NW 97S151	45	3660	71.1	91
KS96HW 10.3	20	3633	75.9	86
OK95616-14C	5	3624	68.9	89
TX95D8283	10	3603	70.8	86
W 95-385	35	3595	74.5	86
XH9806	41	3569	73.3	91
CO940611	16	3561	75.6	84
G96135	25	3491	71.1	89
OK96717	7	3484	77.0	86
HBK0630-4-5	44	3478	74.5	89
KS96HW 94	22	3449	74.5	91
G96047	23	3441	73.0	89
T112	33	3420	74.5	86
W 95-091	37	3338	74.5	84
Scout66	2	3327	74.8	104
KS95H 167-3	19	3322	73.7	89
OK95548-26C	8	3295	71.9	79
TX93D2066	9	3280	69.7	97
NE95510	27	3272	72.6	89
G96134	24	3268	71.9	91
T108	31	3237	74.1	89
W 95-392	36	3234	72.6	86
KS96HW 115	21	3180	70.4	91
TX95V4339	13	3161	69.3	81
G96044	26	3150	73.0	84
Kharkof	1	3076	73.7	107
T114	34	3072	72.6	76
W 95-610W	39	3054	74.1	76
TX95V5905	14	2804	69.7	76
TX94V5922	12	2720	70.4	89
TX97V4311	15	2557	71.5	76
mean		3492	72.7	87
ls.d. (0.05)		ns		
c.v. (%)		17		
ns=non significant F test in analysis of variance				

Table 1, contd.

Brookings, South Dakota, three replications			
line	entry	yield kg/ha	volum e weight kg/hl
W 95-392	36	5470	80.6
W 95-091	37	5451	78.7
XH 9815	42	5409	77.7
W 95-385	35	5380	78.9
TX93D2066	9	5311	78.0
XH 1888	40	5213	79.0
XH 9806	41	5203	78.7
HBK0630-4-5	44	5105	77.1
KS96HW 94	22	5041	78.2
OK95548-26C	8	5038	76.8
T111	32	4946	78.9
KS89180B-2-1-2	43	4920	76.0
OK96717	7	4920	81.4
G96047	23	4858	79.2
TX95V5905	14	4830	76.4
NE95510	27	4808	78.9
TX95D8283	10	4781	76.4
TX95V4339	13	4774	78.6
T112	33	4764	78.2
KS95H167-3	19	4758	79.6
T114	34	4720	76.6
Trego	18	4669	79.6
OK94P549-2C	4	4658	79.1
W 95-610W	39	4655	77.0
OK95571	6	4655	78.0
NE96573	28	4652	74.6
NW 97S151	45	4629	72.5
OK95616-14C	5	4570	74.9
TX90A9528	11	4545	76.4
CO940611	16	4545	78.3
G96135	25	4530	79.7
KS96HW 10.3	20	4451	78.4
KS96HW 115	21	4346	77.8
G96134	24	4324	76.7
T108	31	4306	78.1
CO950043	17	4274	77.7
W 94-480W	38	4259	77.2
G96044	26	4228	79.3
TX94V5922	12	3969	75.9
TX97V4311	15	3686	75.0
TB1071	30	3558	78.4
Scout66	2	3510	79.8
TAM 107	3	3443	74.8
Kharkof	1	3325	75.3
TK1269	29	1190	74.9
mean		4548	77.6
LSD. (0.05)		410	
c.v. (%)		6	

Table 1, contd.

Dakota Lakes, South Dakota, three replications					
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1
KS89180B-2-1-2	43	6300	74.0	91	150
W 95-392	36	6046	80.6	86	148
TX93D2066	9	6043	77.3	99	152
XH9806	41	5798	77.7	93	151
XH1888	40	5747	76.2	98	150
XH9815	42	5742	76.4	91	151
W 95-385	35	5619	77.3	91	151
OK95571	6	5578	76.0	93	150
G96047	23	5414	78.9	86	149
KS96HW 94	22	5364	76.6	93	150
W 95-091	37	5328	76.9	97	152
OK95548-26C	8	5319	76.6	86	151
HBK0630-4-5	44	5282	75.1	91	152
KS95H167-3	19	5273	76.6	102	151
NE95510	27	5220	78.2	107	152
OK94P549-2C	4	5153	75.9	87	151
OK96717	7	5108	81.1	99	151
G96135	25	5079	80.8	93	150
W 95-610W	39	5045	76.8	86	153
OK95616-14C	5	5042	74.0	88	151
CO950043	17	5022	77.7	93	150
TX95V5905	14	4995	76.6	83	151
KS96HW 115	21	4981	78.0	97	151
TX90A9528	11	4954	75.7	97	150
NW97S151	45	4947	72.0	94	150
NE96573	28	4918	72.6	107	153
T112	33	4886	78.2	94	151
T108	31	4802	75.9	86	152
T111	32	4784	81.1	93	152
TX95D8283	10	4705	75.1	95	151
TAM 107	3	4584	73.3	85	150
TX94V5922	12	4538	77.1	91	153
TX95V4339	13	4537	74.8	87	151
CO940611	16	4536	75.9	106	152
G96134	24	4494	74.4	86	151
Trego	18	4463	78.0	91	151
T114	34	4399	74.4	91	150
G96044	26	4376	75.7	91	151
W 94-480W	38	4355	77.3	97	152
KS96HW 10.3	20	4122	75.1	87	152
TB1071	30	3512	74.9	78	151
TX97V4311	15	3386	73.3	84	152
Scout66	2	3241	79.5	105	151
TK1269	29	3238	76.6	84	152
Kharkof	1	2481	76.6	117	150
mean		4850	76.5	93	151
ls.d. (0.05)		499			
c.v. (%)		6			

Table 1, contd.

Winner, South Dakota, three replications					
line	entry	yield kg/ha	volum e weight kg/hl	plant height cm	days to heading from 1/1
XH1888	40	5184	80.6	98	151
KS89180B-2-1-2	43	5094	80.0	90	151
XH9815	42	5058	79.7	93	147
KS96HW94	22	5047	81.9	91	148
W95-392	36	5010	84.4	91	147
TX93D2066	9	4999	81.1	92	151
XH9806	41	4943	81.4	98	149
G96134	24	4823	82.0	90	147
TX95D8283	10	4800	81.3	96	152
TX95V5905	14	4764	80.3	87	144
T111	32	4726	82.3	97	147
G96135	25	4710	83.3	92	148
W95-091	37	4702	83.8	91	147
G96047	23	4686	83.3	90	152
KS96HW115	21	4640	82.9	95	149
OK96717	7	4621	83.4	98	148
T112	33	4595	82.1	95	146
CO940611	16	4577	81.3	94	147
OK95571	6	4540	82.9	91	146
T114	34	4501	79.5	91	146
T108	31	4486	82.2	90	147
TX95V4339	13	4481	78.8	90	153
NE95510	27	4477	84.4	102	152
NE96573	28	4344	77.7	102	150
TX90A9528	11	4287	80.4	97	151
NW97S151	45	4276	75.5	91	151
TAM107	3	4264	79.9	91	145
OK95616-14C	5	4232	80.4	94	146
W95-610W	39	4202	80.4	86	152
W94-480W	38	4178	80.9	97	151
Trego	18	4154	83.3	93	149
OK94P549-2C	4	4125	81.4	90	148
OK95548-26C	8	4113	80.2	90	146
KS96HW10.3	20	4020	82.8	87	149
KS95H167-3	19	3971	81.4	99	149
TX94V5922	12	3942	83.7	93	147
HBK0630-4-5	44	3941	79.9	88	150
G96044	26	3926	83.7	90	146
W95-385	35	3826	84.6	90	148
TX97V4311	15	3704	78.4	78	147
CO950043	17	3656	79.5	89	147
Scout66	2	3463	82.6	113	148
Kharkof	1	3195	76.4	123	155
TK1269	29	2037			153
TB1071	30	1732	72.8		153
mean		4323	79.3	93	149
lsd. (0.05)		629			
c.v. (%)		9			

Table 1, contd.

Columbia, Missouri, three replications								
line	entry	yield kg/ha	volute weight kg/hl	days to heading from 1/1	lodging %	winter survival%	reaction to <i>Septoria</i> <i>tritici</i> %	reaction to <i>Fusarium</i> head blight %
HBK0630-4-5	44	3968	76.2	131	20	87	50	9
TX95V5905	14	3834	75.0	131	7	72	44	12
T111	32	3831	76.5	129	43	87	64	3
OK95616-14C	5	3768	74.0	129	27	78	62	7
W 95-091	37	3643	74.9	135	3	77	40	6
XH 9806	41	3624	74.2	134	3	83	43	2
TX95D8283	10	3594	75.3	134	0	82	46	1
T112	33	3561	75.8	129	43	82	72	3
W 95-385	35	3555	76.7	131	23	83	65	2
XH 1888	40	3470	77.4	134	0	81	32	3
TX93D2066	9	3459	76.8	133	3	80	29	3
KS89180B-2-1-2	43	3397	71.1	134	0	73	43	4
XH 9815	42	3343	78.4	131	0	88	47	3
G96135	25	3336	77.2	131	23	77	60	4
G96047	23	3312	74.1	132	7	83	48	4
CO950043	17	3267	74.9	130	23	79	72	5
W 94-480W	38	3182	76.8	136	27	83	44	3
G96044	26	3164	75.2	130	7	76	50	3
NE95510	27	3126	76.0	139	7	79	41	1
OK95548-26C	8	3115	75.9	130	13	84	61	2
KS96HW 115	21	3083	75.9	131	20	78	64	3
CO940611	16	3051	73.7	131	13	87	61	17
TAM 107	3	3032	73.5	128	10	82	62	6
G96134	24	3025	74.5	132	30	88	68	4
KS96HW 94	22	2987	74.3	135	20	90	70	2
OK96717	7	2952	77.1	130	3	81	43	21
OK95571	6	2927	73.1	131	0	72	51	8
W 95-392	36	2920	77.4	130	7	89	64	7
NE96573	28	2904	73.0	139	13	71	34	1
TX95V4339	13	2868	71.8	135	27	85	59	2
TX90A9528	11	2866	72.8	137	13	88	53	1
TK1269	29	2841	77.3	135	23	57	52	2
TB1071	30	2838	76.7	132	0	72	43	5
OK94P549-2C	4	2827	75.3	131	3	82	53	8
T108	31	2681	74.1	131	3	77	55	11
KS95H167-3	19	2614	75.0	132	3	77	62	11
Trego	18	2573	75.9	132	10	72	33	15
T114	34	2535	70.8	130	10	79	51	10
NW 97S151	45	2531	68.3	135	10	89	76	4
KS96HW 10.3	20	2176	75.2	132	3	77	79	3
TX97V4311	15	2095	71.9	129	53	78	65	26
TX94V5922	12	2044	70.7	130	37	83	62	9
Scout66	2	1884	78.0	137	50	69	50	2
W 95-610W	39	1857	71.8	137	0	84	70	2
Kharkof	1	1713	79.5	140	40	82	44	1
mean		3008	74.9	132	15	80	54	6
l.s.d. (0.05)		479	2.1					
c.v. (%)		10	1.8					

Table 1, contd.

Crawfordsville, Iowa, two replications			
line	entry	yield kg/ha	volum e weight kg/hl
T111	32	6399	77.3
HBK0630-4-5	44	6382	76.4
OK95571	6	6170	74.6
XH9815	42	6167	75.7
OK95548-26C	8	6130	76.2
OK95616-14C	5	6066	75.2
T112	33	5975	76.1
OK94P549-2C	4	5958	76.4
Trego	18	5733	74.9
G96135	25	5666	77.5
TX95V5905	14	5656	74.0
XH9806	41	5636	74.9
OK96717	7	5531	75.8
CO940611	16	5508	75.7
NE95510	27	5414	75.9
KS89180B-2-1-2	43	5293	74.6
TX95D8283	10	5252	75.4
KS96HW115	21	5178	75.0
W95-610W	39	5155	76.8
W95-091	37	5118	74.2
W95-385	35	5084	77.0
XH1888	40	4812	72.4
NE96573	28	4781	70.8
T114	34	4765	72.6
TX93D2066	9	4761	76.0
TAM 107	3	4704	71.0
CO950043	17	4697	74.6
W94-480W	38	4627	75.5
KS95H167-3	19	4600	74.4
G96134	24	4553	73.4
KS96HW94	22	4529	74.5
TX95V4339	13	4405	72.8
T108	31	4395	72.8
W95-392	36	4385	76.6
NW97S151	45	4112	68.8
G96044	26	4079	74.8
TX94V5922	12	4028	72.5
TX90A9528	11	3958	71.3
G96047	23	3931	76.2
TX97V4311	15	3672	73.1
KS96HW10.3	20	3258	74.6
Scout66	2	2838	75.0
Kharkof	1	2091	75.5
TB1071	30	1342	71.1
TK1269	29	652	34.6
mean		4743	73.7
lsd. (0.05)		1046	6.9
c.v. (%)		11	4.7

Table 1, concluded

Bozeman, Montana, no replication					
line	entry	yield kg/ha	volume weight kg/hl	days to heading from 1/1	plant height cm
XH1888	40	9769.2	79.2	169	93
XH9806	41	9328.0	79.2	167	92
NW97S151	45	8611.3	77.3	168	93
NE96573	28	8360.5	75.8	169	101
G96047	23	8294.5	80.1	171	92
KS96HW115	21	8294.1	79.1	169	96
TX94V5922	12	8216.1	79.4	168	97
XH9815	42	8173.1	79.4	167	85
W95-610W	39	8062.8	80.0	168	82
W95-091	37	8057.3	79.3	167	93
HBK0630-4-5	44	8041.4	77.9	170	84
W95-385	35	7983.2	79.5	168	90
G96044	26	7980.9	79.3	167	98
TB1071	30	7960.4	79.4	167	78
W94-480	38	7946.0	79.7	169	97
T112	33	7850.5	79.9	168	88
T108	31	7836.1	79.6	168	87
TX95V4339	13	7790.4	77.4	171	86
TX90A9528	11	7692.4	77.0	169	93
OK95571	6	7599.8	78.0	166	92
KS89180B-2-1-2	43	7521.5	75.3	170	80
W95-392	36	7506.2	80.8	168	89
TX97V4311	15	7496.8	80.5	167	87
TX93D2066	9	7492.5	77.9	170	100
NE95510	27	7457.6	76.9	170	95
TX95D8283	10	7337.8	75.2	171	96
OK95548-26C	8	7231.7	77.3	167	80
KS95H167-3	19	7201.8	78.7	169	94
T111	32	7199.0	79.2	167	90
Trego	18	7037.0	81.0	170	90
KS96HW94	22	7019.6	78.7	167	89
TK1269	29	6963.1	78.4	170	92
TX95V5905	14	6941.2	80.0	170	93
CO940611	16	6904.1	79.7	169	96
OK95616-14C	5	6853.8	78.4	166	84
CO950043	17	6823.2	78.5	168	90
OK94P549-2C	4	6808.9	79.6	167	93
T114	34	6717.5	77.6	167	84
OK96717	7	6712.1	80.7	167	92
G96135	25	6156.5	76.6	168	89
G96134	24	6091.1	75.5	167	89
KS97H176-1	20	5870.7	79.2	171	87
TAM-107	3	5854.8	77.4	168	90
Kharkof	1	5377.9	78.3	173	134
Scout 66	2	5371.8	79.0	169	119
mean		7417.7	78.6	168.5	92.0

Table 2. Summary of mean yields (kg/ha) for 43 wheats grown at 33 locations in the 1999 Southern Regional Performance Nursery.

line	ENTRY	Regional		Clovis (dryland) NM		Clovis (irrigated) NM		Farmington, NM		New Mexico State	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
XH1888	40	4712	1	4846	2	6694	17	7305	7	6384	5
XH9806	41	4620	2	3732	34	7273	9	6849	17	6042	12
XH9815	42	4506	3	4608	6	4652	40	6790	18	5494	23
HBK0630-4-5	44	4456	4	4239	21	7620	2	5668	29	5825	16
W95-385	35	4375	5	4579	7	7722	1	6960	15	6474	4
Trego	18	4359	6	4277	19	6400	23	6133	26	5656	19
OK95616-14C	5	4319	7	4424	14	6012	27	6544	21	5748	18
OK96717	7	4312	8	4533	9	5326	32	5268	35	5065	37
OK94P549-2C	4	4297	9	4146	24	5202	35	5812	27	5129	35
W95-392	36	4294	10	4392	15	5566	29	6519	22	5595	20
TX95V5905	14	4261	11	4370	17	5047	38	6497	23	5424	28
OK95571	6	4255	12	4388	16	6529	22	5630	31	5527	22
OK95548-26C	8	4223	13	3703	36	5697	28	6347	25	5359	29
W95-091	37	4222	14	4264	20	6576	20	4014	43	4858	40
KS89180B-2-1-2	43	4211	15	4989	1	5446	30	4992	38	5127	36
G96047	23	4186	16	4364	18	7347	7	7062	9	6338	7
CO950043	17	4182	17	4138	26	6877	15	9107	1	6947	1
KS95H167-3	19	4177	18	3729	35	3452	43	8532	2	5567	21
KS96HW115	21	4168	19	3233	41	5268	33	7010	12	5354	30
TX95D8283	10	4168	20	3764	33	6586	19	7003	13	5906	15
KS96HW94	22	4159	21	4061	27	7142	11	4961	39	5345	31
CO940611	16	4152	22	3879	32	5183	36	7592	5	5755	17
TX93D2066	9	4147	23	3143	42	6768	16	7507	6	5976	13
W95-610W	39	4145	24	4708	3	6998	12	7029	11	6324	8
T108	31	4143	25	3956	29	6965	13	6988	14	6071	11
T112	33	4134	26	4478	10	7570	3	6428	24	6186	9
TX90A9528	11	4097	27	4192	22	7293	8	7919	3	6613	2
TX95V4339	13	4097	28	3939	30	6336	24	5570	32	5311	32
W94-480W	38	4081	29	4048	28	6276	25	7099	8	5937	14
TX94V5922	12	4064	30	4537	8	6663	18	7798	4	6479	3
NW97S151	45	4025	31	4441	13	7468	4	6936	16	6347	6
T111	32	3966	32	4154	23	6053	26	5527	33	5273	34
T114	34	3906	33	3928	31	5395	31	6715	19	5483	24
G96044	26	3854	34	4684	5	6543	21	7032	10	6181	10
NE96573	28	3780	35	4687	4	7219	10	4708	42	5455	26
G96135	25	3769	36	3256	40	6953	14	4844	40	5000	38
TAM-107	3	3759	37	3638	37	5210	34	6579	20	5286	33
NE95510	27	3735	38	3479	38	4708	39	5200	36	4536	42
G96134	24	3711	39	4456	12	7352	6	4745	41	5441	27
KS96HW10-3	20	3641	40	3281	39	7367	5	5721	28	5483	25
TX97V4311	15	3639	41	4466	11	5053	37	5175	37	4926	39
Scout 66	2	2982	42	4141	25	4177	41	5651	30	4756	41
Kharkof	1	2491	43	3113	43	4059	42	5502	34	4353	43
mean		4065		4011		6054		6267		5636	
l.s.d. (0.05)		264		1435		1856		1618		960	
c.v. (%)		14		22		19		18		19	

Table 2, contd.

line	entry	Regional		Bushland (dryland), TX		Bushland (irrigated) TX		Chillicothe, Texas		McGregor, Texas		Prosper, Texas		Texas State	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
XH1888	40	4712	1	4441	7	7432	2	4003	8	4489	6	4176	6	4882	2
XH9806	41	4620	2	4639	4	6845	12	3989	9	3403	21	3791	12	4463	8
XH9815	42	4506	3	4823	1	7338	4	4183	4	4062	11	4203	5	4868	3
HBK0630-4-5	44	4456	4	4470	6	6150	28	4198	3	3931	15	3466	17	4411	9
W95-385	35	4375	5	3743	25	5524	38	3503	18	5067	1	3470	16	4312	11
Trego	18	4359	6	3922	18	7090	7	3742	12	4666	3	4439	4	4765	4
OK95616-14C	5	4319	7	3885	20	5923	32	3595	15	3897	16	3963	9	4230	13
OK96717	7	4312	8	3275	37	6411	22	3439	21	3951	14	4109	7	4219	14
OK94P549-2C	4	4297	9	4086	11	7121	5	4219	1	4401	7	4781	1	4889	1
W95-392	36	4294	10	3125	40	5705	36	3730	13	4059	12	3784	13	4079	21
TX95V5905	14	4261	11	4030	13	6271	25	3952	10	4603	5	3847	10	4545	5
OK95571	6	4255	12	3556	30	6911	10	4006	7	2917	27	3818	11	4159	16
OK95548-26C	8	4223	13	3961	17	6793	16	4122	5	3859	17	3997	8	4503	6
W95-091	37	4222	14	3907	19	5972	30	3300	24	3988	13	3640	14	4151	17
KS89180B-2-1-2	43	4211	15	3882	21	5266	40	4211	2	4190	10	3136	24	4140	18
G96047	23	4186	16	4069	12	6802	14	3009	31	3575	19	3394	19	4132	19
CO950043	17	4182	17	4360	8	6768	17	3470	20	1120	42	2614	33	3507	34
KS95H167-3	19	4177	18	3239	38	6301	24	3687	14	4627	4	4479	3	4476	7
KS96HW115	21	4168	19	3974	14	6856	11	3287	25	2988	26	3461	18	4043	26
TX95D8283	10	4168	20	3807	23	5764	35	3432	22	4208	9	4573	2	4347	10
KS96HW94	22	4159	21	3517	31	7505	1	3093	27	3235	23	3098	25	4036	27
CO940611	16	4152	22	4329	9	6809	13	3402	23	2885	28	3311	20	4068	22
TX93D2066	9	4147	23	3693	27	5973	29	2779	38	4220	8	3560	15	4056	25
W95-610W	39	4145	24	4689	2	7359	3	3049	29	2690	30	2612	34	3993	28
T108	31	4143	25	3724	26	7051	9	3790	11	3159	25	3026	26	4088	20
T112	33	4134	26	3802	24	6415	21	3069	28	2413	34	2558	35	3574	32
TX90A9528	11	4097	27	3392	36	6377	23	2597	41	2416	33	2215	40	3338	36
TX95V4339	13	4097	28	3453	34	7111	6	4066	6	3765	18	3259	23	4295	12
W94-480W	38	4081	29	4675	3	7073	8	2758	40	1868	38	2638	32	3681	30
TX94V5922	12	4064	30	3879	22	6638	19	3536	17	3242	22	3273	22	4059	24
NW97S151	45	4025	31	4120	10	6801	15	3499	19	3190	24	3020	27	4067	23
T111	32	3966	32	3968	15	5580	37	3027	30	2325	35	2813	30	3466	35
T114	34	3906	33	2557	43	6714	18	3569	16	4687	2	3302	21	4198	15
G96044	26	3854	34	3463	33	6433	20	3122	26	2466	32	2813	30	3585	31
NE96573	28	3780	35	3963	16	6234	27	2947	35	1687	39	2381	38	3332	37
G96135	25	3769	36	2824	41	5331	39	2980	32	2645	31	2999	28	3311	38
TAM-107	3	3759	37	3440	35	5846	34	2952	33	2717	29	2923	29	3522	33
NE95510	27	3735	38	3596	29	5878	33	2949	34	1660	40	2190	41	3155	39
G96134	24	3711	39	3173	39	5067	41	2904	37	1883	37	2502	36	3029	41
KS96HW10-3	20	3641	40	3688	28	5965	31	2773	39	1991	36	1697	42	3146	40
TX97V4311	15	3639	41	4575	5	6242	26	2909	36	3504	20	2405	37	3901	29
Scout 66	2	2982	42	3487	32	4873	42	2109	42	1367	41	2219	39	2721	42
Kharkof	1	2491	43	2778	42	3672	43	1923	43	604	43	1394	43	1982	43
mean		4065		3803		6301		3343		3235		3234		3949	
l.s.d. (0.05)		264		920		955		743		582		380		731	
c.v. (%)		14		15		9		14		13		7		12	

Table 2, contd.

		Regional		Stillwater, Oklahoma		Goodwell, Oklahoma		Lahoma, Oklahoma		Altus, Oklahoma		Oklahoma State	
line	entry	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
XH1888	40	4712	1	3991	1	6495	10	3155	19	3719	3	4340	2
XH9806	41	4620	2	3526	8	6895	2	3246	16	3447	12	4279	6
XH9815	42	4506	3	3191	23	6794	5	3738	4	3493	9	4304	4
HBK0630-4-5	44	4456	4	3451	9	5739	29	3696	6	2888	31	3944	17
W95-385	35	4375	5	3883	2	5190	37	3832	3	3060	23	3991	14
Trego	18	4359	6	3397	11	6894	3	3327	12	3668	4	4321	3
OK95616-14C	5	4319	7	3209	22	6252	15	3720	5	3039	24	4055	11
OK96717	7	4312	8	3222	20	6354	12	4071	1	3515	7	4290	5
OK94P549-2C	4	4297	9	3445	10	6237	16	2986	24	3492	10	4040	12
W95-392	36	4294	10	3700	3	6327	13	3269	15	3174	19	4118	9
TX95V5905	14	4261	11	3680	4	5608	32	2354	37	4040	1	3920	19
OK95571	6	4255	12	3632	6	6360	11	3547	7	3160	20	4175	8
OK95548-26C	8	4223	13	3295	16	6567	9	2975	26	3387	13	4056	10
W95-091	37	4222	14	3562	7	5218	36	3895	2	2877	32	3888	21
KS89180B-2-1-2	43	4211	15	2917	29	5304	35	3509	8	2703	35	3608	29
G96047	23	4186	16	3371	13	5763	28	3391	10	3577	5	4026	13
CO950043	17	4182	17	3386	12	5778	27	1955	41	3016	25	3534	32
KS95H167-3	19	4177	18	3211	21	6273	14	2774	32	3542	6	3950	16
KS96HW115	21	4168	19	2998	28	6010	23	3359	11	3223	18	3897	20
TX95D8283	10	4168	20	2814	33	4608	39	2794	31	3078	22	3324	39
KS96HW94	22	4159	21	3356	15	6897	1	3466	9	3794	2	4378	1
CO940611	16	4152	22	2854	32	5935	24	3313	14	3011	26	3778	25
TX93D2066	9	4147	23	2043	42	6684	8	2540	35	2976	27	3561	31
W95-610W	39	4145	24	2655	37	6791	6	2240	39	3508	8	3798	24
T108	31	4143	25	2888	31	6021	22	3042	22	3315	14	3816	22
T112	33	4134	26	3364	14	5628	30	3315	13	2954	30	3815	23
TX90A9528	11	4097	27	2903	30	6690	7	2982	25	3287	16	3966	15
TX95V4339	13	4097	28	3668	5	6810	4	3200	17	3095	21	4193	7
W94-480W	38	4081	29	3068	27	5617	31	2949	27	3477	11	3778	26
TX94V5922	12	4064	30	3263	18	6183	17	3027	23	3293	15	3942	18
NW97S151	45	4025	31	2748	35	6023	21	2658	34	2960	29	3597	30
T111	32	3966	32	3107	25	4594	40	2927	28	2604	37	3308	40
T114	34	3906	33	3284	17	6141	18	2712	33	2968	28	3776	27
G96044	26	3854	34	2496	39	6110	19	2839	30	3237	17	3671	28
NE96573	28	3780	35	2663	36	5317	34	2458	36	2422	39	3215	41
G96135	25	3769	36	3068	26	4324	41	3173	18	2752	33	3329	38
TAM-107	3	3759	37	3225	19	5604	33	2281	38	2603	38	3428	35
NE95510	27	3735	38	3116	24	5916	25	3078	21	2006	42	3529	33
G96134	24	3711	39	2808	34	4971	38	3111	20	2616	36	3377	36
KS96HW10-3	20	3641	40	2639	38	5855	26	2907	29	2345	40	3437	34
TX97V4311	15	3639	41	2465	40	6095	20	2151	40	2729	34	3360	37
Scout 66	2	2982	42	2279	41	4193	42	1312	43	2236	41	2505	42
Kharkof	1	2491	43	1848	43	3384	43	1459	42	1608	43	2075	43
mean		4065		3069		5872		2919		3040		3760	
1.s.d. (0.05)		264		570		854		778		515		619	
c.v. (%)		14		11		9		16		10		11	

Table 2, contd.

line	ENTRY	Regional		Lincoln, Nebraska		Clay Center, Nebraska		North Platte, Nebraska		Alliance, Nebraska		Nebraska State	
		mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
XH1888	40	4712	1	5313	3	2870	5	4046	23	4028	6	4064	5
XH9806	41	4620	2	5235	7	3053	3	4989	3	3569	18	4212	2
XH9815	42	4506	3	5110	10	2094	23	4514	8	4235	2	3988	7
HBK0630-4-5	44	4456	4	5220	8	3524	1	4353	10	3478	22	4144	3
W95-385	35	4375	5	4279	29	2464	17	4256	12	3595	17	3648	17
Trego	18	4359	6	4816	16	2153	22	4345	11	4171	3	3871	9
OK9516-14C	5	4319	7	5341	2	2553	12	3685	36	3624	15	3801	12
OK96717	7	4312	8	5272	4	3181	2	5055	2	3484	21	4248	1
OK94P549-2C	4	4297	9	4682	21	1949	30	3915	31	3671	12	3554	26
W95-392	36	4294	10	3960	37	2072	25	4226	14	3234	34	3373	35
TX95V5905	14	4261	11	4947	14	2400	19	3973	30	2804	41	3531	27
OK95571	6	4255	12	4321	28	1806	35	4144	18	4080	4	3588	22
OK95548-26C	8	4223	13	4100	34	2753	8	3915	32	3295	29	3516	29
W95-091	37	4222	14	5251	5	2767	7	4198	15	3338	26	3888	8
KS89180B-2-1-2	43	4211	15	4722	20	3020	4	4799	5	3880	8	4105	4
G96047	23	4186	16	4243	30	2659	9	4116	19	3441	24	3615	20
CO950043	17	4182	17	4818	15	2462	18	4514	7	4358	1	4038	6
KS95H167-3	19	4177	18	5135	9	2022	28	3994	28	3322	28	3618	19
KS96HW115	21	4168	19	5017	11	1891	32	4192	17	3180	35	3570	25
TX95D8283	10	4168	20	4729	19	2547	13	4432	9	3603	16	3828	10
KS96HW94	22	4159	21	4537	25	1949	31	3639	37	3449	23	3394	34
CO940611	16	4152	22	4971	13	2497	15	3054	42	3561	19	3521	28
TX93D2066	9	4147	23	4805	17	1954	29	4255	13	3280	30	3573	24
W95-610W	39	4145	24	4490	26	2059	26	4888	4	3054	40	3623	18
T108	31	4143	25	5530	1	2317	20	3629	38	3237	33	3678	15
T112	33	4134	26	4212	32	2634	10	4061	21	3420	25	3582	23
TX90A9528	11	4097	27	3995	36	1560	38	5316	1	4035	5	3726	13
TX95V4339	13	4097	28	3846	39	2083	24	4055	22	3161	36	3286	38
W94-480W	38	4081	29	5249	6	1662	36	4004	27	3830	10	3686	14
TX94V5922	12	4064	30	4416	27	1870	33	4192	16	2720	42	3299	37
NW97S151	45	4025	31	3290	41	2171	21	4747	6	3660	13	3467	31
T111	32	3966	32	4979	12	2532	14	4043	24	3727	11	3820	11
T114	34	3906	33	4556	24	2025	27	3621	39	3072	39	3319	36
G96044	26	3854	34	4070	35	1561	37	4035	25	3150	37	3204	39
NE96573	28	3780	35	4163	33	2473	16	4082	20	3941	7	3665	16
G96135	25	3769	36	4665	22	2783	6	3471	40	3491	20	3603	21
TAM-107	3	3759	37	4625	23	1537	39	3988	29	3864	9	3503	30
NE95510	27	3735	38	3865	38	2576	11	4018	26	3272	31	3433	32
G96134	24	3711	39	4771	18	1844	34	3737	35	3268	32	3405	33
KS96HW10-3	20	3641	40	3572	40	1092	41	3773	34	3633	14	3017	40
TX97V4311	15	3639	41	4228	31	1234	40	3820	33	2557	43	2960	41
Scout 66	2	2982	42	2801	42	1059	43	2850	43	3327	27	2509	42
Kharkof	1	2491	43	2660	43	1060	42	3203	41	3076	38	2500	43
mean		4065		4530		2203		4096		3492		3581	
I.s.d. (0.05)		264		660		789		ns		ns		620	
c.v. (%)		14		9		22		18		17		16	

Table 2, concluded.

line	Regional		Brookings, SD		Dakota Lakes, SD		Winner, SD		South Dakota State		Crawfordsville, IA		Columbia, Missouri		
	ENTRY	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank	mean	rank
XH1888	40	4712	1	5213	6	5747	5	5184	1	5381	5	4812	22	3470	10
XH9806	41	4620	2	5203	7	5798	4	4943	7	5315	6	5636	12	3624	6
XH9815	42	4506	3	5409	3	5742	6	5058	3	5403	3	6167	4	3343	13
HBK0630-4-5	44	4456	4	5105	8	5282	13	3941	37	4776	18	6382	2	3968	1
W95-385	35	4375	5	5380	4	5619	7	3826	39	4942	11	5084	21	3555	9
Trego	18	4359	6	4669	22	4463	36	4154	31	4429	34	5733	9	2573	35
OK95616-14C	5	4319	7	4570	28	5042	20	4232	28	4620	26	6066	6	3768	4
OK96717	7	4312	8	4920	13	5108	17	4621	16	4883	12	5531	13	2952	26
OK94P549-2C	4	4297	9	4658	23	5153	16	4125	32	4645	23	5958	8	2827	32
W95-392	36	4294	10	5470	1	6046	2	5010	5	5514	1	4385	34	2920	28
TX95V5905	14	4261	11	4830	15	4995	22	4764	10	4863	13	5656	11	3834	2
OK95571	6	4255	12	4655	25	5578	8	4540	19	4958	10	6170	3	2927	27
OK95548-26C	8	4223	13	5038	10	5319	12	4113	33	4823	15	6130	5	3115	20
W95-091	37	4222	14	5451	2	5328	11	4702	13	5160	8	5118	20	3643	5
KS89180B-2-1-2	43	4211	15	4920	12	6300	1	5094	2	5389	4	5293	16	3397	12
G96047	23	4186	16	4858	14	5414	9	4686	14	4986	9	3931	39	3312	15
CO950043	17	4182	17	4274	36	5022	21	3656	41	4317	35	4697	27	3267	16
KS95H167-3	19	4177	18	4758	20	5273	14	3971	35	4667	21	4600	29	2614	34
KS96HW115	21	4168	19	4346	33	4981	23	4640	15	4655	22	5178	18	3083	21
TX95D8283	10	4168	20	4781	17	4705	30	4800	9	4762	19	5252	17	3594	7
KS96HW94	22	4159	21	5041	9	5364	10	5047	4	5164	7	4529	31	2987	25
CO940611	16	4152	22	4545	29	4536	34	4577	18	4553	30	5508	14	3051	22
TX93D2066	9	4147	23	5311	5	6043	3	4999	6	5451	2	4761	25	3459	11
W95-610W	39	4145	24	4655	24	5045	19	4202	29	4632	25	5155	19	1857	42
T108	31	4143	25	4306	35	4802	28	4486	21	4531	33	4395	33	2681	33
T112	33	4134	26	4764	19	4886	27	4595	17	4748	20	5975	7	3561	8
TX90A9528	11	4097	27	4545	29	4954	24	4287	25	4595	28	3958	38	2866	31
TX95V4339	13	4097	28	4774	18	4537	33	4481	22	4575	29	4405	32	2868	30
W94-480W	38	4081	29	4259	37	4355	39	4178	30	4265	36	4627	28	3182	17
TX94V5922	12	4064	30	3969	39	4538	32	3942	36	4149	39	4028	37	2044	40
NW97S151	45	4025	31	4629	27	4947	25	4276	26	4617	27	4112	35	2531	37
T111	32	3966	32	4946	11	4784	29	4726	11	4819	16	6399	1	3831	3
T114	34	3906	33	4720	21	4399	37	4501	20	4540	32	4765	24	2535	36
G96044	26	3854	34	4228	38	4376	38	3926	38	4177	38	4079	36	3164	18
NE96573	28	3780	35	4652	26	4918	26	4344	24	4638	24	4781	23	2904	29
G96135	25	3769	36	4530	31	5079	18	4710	12	4804	17	5666	10	3336	14
TAM-107	3	3759	37	3443	42	4584	31	4264	27	4097	40	4704	26	3032	23
NE95510	27	3735	38	4808	16	5220	15	4477	23	4835	14	5414	15	3126	19
G96134	24	3711	39	4324	34	4494	35	4823	8	4547	31	4553	30	3025	24
KS96HW10-3	20	3641	40	4451	32	4122	40	4020	34	4198	37	3258	41	2176	38
TX97V4311	15	3639	41	3686	40	3386	41	3704	40	3580	41	3672	40	2095	39
Scout 66	2	2982	42	3510	41	3241	42	3463	42	3405	42	2838	42	1884	41
Kharkof	1	2491	43	3325	43	2481	43	3195	43	3000	43	2091	43	1713	43
mean		4065		4540		4850		4323		4656		4743		3008	
L.s.d. (0.05)		264		410		499		629		513		1046		479	
c.v. (%)		14		6		6		9		7		11		10	

Table 4. Stability analyses, grain weight and test weight, for 43 wheats grown in the 1999 SRPN.

line	entry	grain yield			test weight		
		regional average (kg/ha)	regress. coef. (b)	r ²	regional average (kg/hl)	regress. coef. (b)	r ²
XH1888	40	4712	1.13	0.94	76.3	0.85	0.84
XH9806	41	4620	1.09	0.94	76.2	0.99	0.94
XH9815	42	4506	0.98	0.86	76.2	0.87	0.81
HBK0630-4-5	44	4456	0.88	0.8	76.9	0.83	0.83
W95-385	35	4375	0.96	0.83	77.3	0.93	0.56
Trego	18	4359	1.03	0.86	78.1	0.93	0.9
OK95616-14C	5	4319	0.92	0.9	75.1	0.9	0.82
OK96717	7	4312	0.88	0.82	78.6	0.81	0.86
OK94P549-2C	4	4297	1	0.84	77.1	0.95	0.88
W95-392	36	4294	0.91	0.86	78.3	0.95	0.81
TX95V5905	14	4261	0.89	0.83	75.4	1	0.83
OK95571	6	4255	1.05	0.91	76.0	1.06	0.86
OK95548-26C	8	4223	0.95	0.87	75.5	1.05	0.88
W95-091	37	4222	0.78	0.76	76.4	1.08	0.87
KS89180B-2-1-2	43	4211	0.77	0.76	74.4	0.88	0.79
G96047	23	4186	1.05	0.9	76.5	1.04	0.84
CO950043	17	4182	1.21	0.82	76.3	1.05	0.76
KS95H167-3	19	4177	1	0.72	76.5	0.88	0.9
KS96HW115	21	4168	1.05	0.92	76.3	1.09	0.91
TX95D8283	10	4168	0.9	0.85	74.0	0.75	0.71
KS96HW94	22	4159	1.07	0.88	76.3	1.12	0.95
CO940611	16	4152	1.07	0.91	77.3	0.85	0.85
TX93D2066	9	4147	1.18	0.9	75.6	0.99	0.86
W95-610W	39	4145	1.27	0.92	76.3	1.06	0.8
T108	31	4143	1.08	0.93	75.6	1.06	0.92
T112	33	4134	0.98	0.87	76.1	1.01	0.87
TX90A9528	11	4097	1.27	0.91	74.5	1.01	0.87
TX95V4339	13	4097	1.01	0.91	74.3	1.09	0.86
W94-480W	38	4081	1.11	0.89	76.3	1.13	0.88
TX94V5922	12	4064	1.14	0.91	75.4	1.28	0.72
NW97S151	45	4025	1.1	0.9	72.2	1.01	0.75
T111	32	3966	0.79	0.74	76.8	1.02	0.84
T114	34	3906	1.04	0.88	74.1	0.98	0.89
G96044	26	3854	1.07	0.92	75.9	0.99	0.85
NE96573	28	3780	1.12	0.85	72.8	1.12	0.88
G96135	25	3769	0.75	0.73	76.4	0.95	0.71
TAM-107	3	3759	1.02	0.91	74.3	1.15	0.83
NE95510	27	3735	0.89	0.83	75.9	0.94	0.85
G96134	24	3711	0.92	0.81	74.7	1.07	0.92
KS96HW10-3	20	3641	1.12	0.86	76.7	1.03	0.83
TX97V4311	15	3639	0.98	0.81	75.4	1.29	0.77
Scout66	2	2982	0.85	0.79	76.5	1.01	0.76
Kharkof	1	2491	0.78	0.77	76.1	0.89	0.74

Table 5. Summary of agronomic characteristics of 43 wheats grown in the 1999 SRPN.

line	entry	yield kg/ha	volum e weight kg/hl	days to heading from 1/1	plant height cm	lodging %	head shattering 0-9	winter survival%
number of locations reporting		33	30	20	23	5	3	1
XH1888	40	4712	76.3	136	94	22	2.8	81
XH9806	41	4620	76.2	135	90	9	2.9	83
XH9815	42	4506	76.2	133	89	10	1.8	88
HBK0630-4-5	44	4456	76.9	135	88	15	3.9	87
W95-385	35	4375	77.3	133	90	17	3.6	83
Trego	18	4359	78.1	135	89	22	1.5	72
OK95616-14C	5	4319	75.1	132	87	24	2.3	78
OK96717	7	4312	78.6	134	92	29	1.7	81
OK94P549-2C	4	4297	77.1	134	87	9	1.7	82
W95-392	36	4294	78.3	133	87	12	2.6	89
TX95V5905	14	4261	75.4	132	87	14	3.4	72
OK95571	6	4255	76.0	133	89	16	2.6	72
OK95548-26C	8	4223	75.5	132	81	11	2.0	84
W95-091	37	4222	76.4	134	91	19	4.0	77
KS89180B-2-1-2	43	4211	74.4	136	86	4	3.7	73
G96047	23	4186	76.5	134	88	14	2.1	83
CO950043	17	4182	76.3	133	90	17	2.2	79
KS95H167-3	19	4177	76.5	134	95	18	1.6	77
KS96HW115	21	4168	76.3	134	92	20	2.6	78
TX95D8283	10	4168	74.0	136	87	13	3.0	82
KS96HW94	22	4159	76.3	136	90	19	1.8	90
CO940611	16	4152	77.3	134	92	24	1.7	87
TX93D2066	9	4147	75.6	135	94	10	2.6	80
W95-610W	39	4145	76.3	137	84	8	1.6	84
T108	31	4143	75.6	133	86	13	2.6	77
T112	33	4134	76.1	133	100	24	2.7	82
TX90A9528	11	4097	74.5	137	90	23	2.0	88
TX95V4339	13	4097	74.3	136	87	19	1.8	85
W94-480W	38	4081	76.3	136	95	21	2.2	83
TX94V5922	12	4064	75.4	133	87	32	2.2	83
NW97S151	45	4025	72.2	136	90	13	2.8	89
T111	32	3966	76.8	133	85	22	1.9	87
T114	34	3906	74.1	133	89	14	2.8	79
G96044	26	3854	75.9	132	87	15	2.2	76
NE96573	28	3780	72.8	137	97	30	2.7	71
G96135	25	3769	76.4	133	89	16	1.6	77
TAM107	3	3759	74.3	132	86	24	2.8	82
NE95510	27	3735	75.9	139	95	26	2.4	79
G96134	24	3711	74.7	134	87	18	1.5	88
KS96HW10-3	20	3641	76.7	136	88	14	2.4	77
TX97V4311	15	3639	75.4	131	78	28	1.9	78
Scout66	2	2982	76.5	136	106	57	1.9	69
Kharkof	1	2491	76.1	141	113	46	3.1	82

Table 6. Reactions to viral, fungal and insect pests, 1999 SRPN.

line	entry	reaction to SBMV (0-9), Urbana, IL	reaction to SBMV, Stillwater, OK		reaction to WSMV (0-9), Hays, KS	reaction to BYDV (0-9), Prosper, TX	reaction to <i>Septoria tritici</i> %, Columbia, MO	reaction to <i>Fusarium</i> head blight %, Columbia, MO	reaction to Hessian fly, Manhattan, KS
			rating (1-4)	ELISA					
Kharkof	1	7	3	+	8	5	44	1	S
Scout66	2	8	3	+	8	4	50	2	S
TAM 107	3	7	2	+	5	5	62	6	S
OK94P549-2C	4	8	3	+	7	5	53	8	S
OK95616-14C	5	6	1	-	4	4	62	7	R
OK95571	6	7	1	-	7	4	51	8	H
OK96717	7	8	2	+	7	5	43	21	S
OK95548-26C	8	6	3	+	8	3	61	2	R
TX93D2066	9	7	3	+	7	5	29	3	S
TX95D8283	10	7	3	+	8	4	46	1	S
TX90A9528	11	8	3	+	8	5	53	1	S
TX94V5922	12	7	2	+	4	5	62	9	S
TX95V4339	13	7	1	-	9	7	59	2	S
TX95V5905	14	8	3	+	5	5	44	12	S
TX97V4311	15		2	+	8	5	65	26	S
CO940611	16	4	1	-	6	5	61	17	S
CO950043	17	5	3	+	8	4	72	5	S
Trego	18	3	1	-	5	7	33	15	R
KS95H167-3	19	8	3	+	5	6	62	11	R
KS96HW 10-3	20	2	1	-	1	7	79	3	H
KS96HW 115	21	4	1	-	4	5	64	3	S
KS96HW 94	22	4	2	+	4	5	70	2	S
G96047	23	6	1	-	6	5	48	4	S
G96134	24	2	1	-	9	5	68	4	S
G96135	25	2	1	-	9	7	60	4	S
G96044	26	5	1	-	5	5	50	3	S
NE95510	27	5	1	-	7	6	41	1	S
NE96573	28	7	3	+	8	5	34	1	R-
TK1269	29		4	+					S
TB1071	30		2	-/+					S
T108	31	5	2	+	9	5	55	11	S
T111	32	3	1	-	6	7	64	3	S
T112	33	4	1	-	5	6	72	3	S
T114	34	2	1	-/+	9	6	51	10	S
W 95-385	35	7	1	-	6	5	65	2	S
W 95-392	36	6	1	-	5	6	64	7	S
W 95-091	37	4	1	-	9	5	40	6	H
W 94-480W	38	7	2	-	7	6	44	3	S
W 95-610W	39	8	2	+	4	4	70	2	S
XH1888	40	3	1	-	6	5	32	3	S
XH9806	41	4	1	-	4	6	43	2	S
XH9815	42	2	1	+	6	6	47	3	H
KS89180B-2-1-2	43	2	1	-/+	8	4	43	4	S
HBK0630-4-5	44	3	1	-	9	7	50	9	H
NW 97S151	45	6	1	-	9	6	76	4	S

Table 7. Summary of field reactions to leaf rust, 1999 SRPN.

Line	Entry	Bushland, TX		McGregor, TX		Chillicothe, TX		Prosper, TX		Beeville, TX	Manhattan, KS	St. Paul, MN	
		% infected	reaction type*	reaction type, 2/3/99	reaction type, 4/24/99	reaction type	% infected	reaction type	reaction type	reaction type	reaction type	leaf rust 6/25/99	stem rust 7/6/99
Kharkof	1	20	MS	60S	80S	80ms	93	S	S	90S	20S	60S	
Scout 66	2	20	MS	60S	90S	80s	73	S-MS	S	90S	40S	40S	
TAM-107	3	70	S	80S	90S	80s	97	S	S	90S	80S	60MS	
OK94P549-2C	4	0	;	5MR	40MS	30s	20	MS	R	R	TR	60S	
OK95616-14C	5	50	S	30S	80S	60s	67	S	S	80S	5MR-MS	60S	
OK95571	6	2	R	5MR/MS	90S	30s	47	S	MR	70S	5MS-S	60MS-S	
OK96717	7	2	MR	30S	40S	50s	20	MS	R-MR	TMS	5MR	60MS	
OK95548-26C	8	5	MR	tMR/MS	30MS	80s	20	MS	R-MR	5MS	5MR	20R-MR	
TX93D2066	9	5	MR	R;	20MS	10mr-30s	20	MS	MS	TMS	40S	5MS-S	
TX95D8283	10	0	;	R	R	0;	0	0	R	R	5R-MR	40MR	
TX90A9528	11	20	MR	20MS	80S	30s	93	S	S	90S	20S	20MR-S	
TX94V5922	12	30	MR	10S	R	0;-80s	80	S	R	30MS	10S	60MS-S	
TX95V4339	13	0	;	R;	R	0;	13	MS	R	R	TR	5MR-S	
TX95V5905	14	0	;	R	MIX R-80S	60s	0	0	R	R	TMR	10MR	
TX97V4311	15	1	MR	R	R	0;	0	0	R	R	TMR	TR	
CO940611	16	30	MS	60S	80S	90s	80	S	S	90S	60S	10MR	
CO950043	17	75	S	80S	90S	100s	100	S	S	90S	60S	60S	
Trego	18	1	MR	R;	60S	20mr	0	0	R	10MS	TMR	5MR	
KS95H167-3	19	0	;	R	tR;	0;	0	0	MR	TMS	TR	TMR	
KS96HW10-3	20	20	MR	70S	90S	100s	100	S	S	100S	20MS-S	5R-MR	
KS96HW115	21	5	MR	60S	80S	90s	100	S	S	100S	10MS-S	40S	
KS96HW94	22	1	MR	5MS	80S	20s	93	S	S-MS	60MS	5S	60S	
G96047	23	20	MS	80S	100S	50s	100	S	S	40MS	60S	30MR-MS	
G96134	24	35	S	80S	100S	100s	100	S	S	90S	60S	60MS-S	
G96135	25	79	S	80S	100S	100s	100	S	S	80S	60S	60S	
G96044	26	3	MR	30MS/S	80S	80s	100	S	S	90S	-	-	
NE95510	27	15	MR	20S	60S	60s	100	S	S	10MS	5MR	TMR	
NE96573	28	10	MR	20S	90S	30s	67	MS-S	S	60MS	TMR	TR	
TK1269	29	0	;	R;	tR	0;	0	0	R	R	-	-	
TB1071	30	2	MR	R;	10MR	0;	0	0	R-MR	10MS	-	-	
T108	31	10	MR	80S	90S	90s	100	S	S	100MS	20MS-S	40MS-S	
T111	32	40	MS	80S	90S	100s	100	S	S	90S	30MR-S	40MS-S	
T112	33	30	MR	40S	70S	100s	100	S	S	90S	60S	30MS-S	
T114	34	3	MR	R	tR	0;	0	0	S	R	60S	30MS-S	
W95-385	35	1	MR	5MR/MS	40S	30mr	43	MS-S	S	50MS	20S	5MS-S	
W95-392	36	2	MR	30S	80S	30ms	60	S	S	60S	TMR	10MS-S	
W95-091	37	0	;	R	R	80s	0	0	R	0	TR	TS	
W94-480W	38	20	MR	30S	80S	50s	20	S-MS	S	80S	5MR-MS	5MS	
W95-610W	39	3	MR	tR/MR	80S	0;	60	MR-MS	MS	10MR	TMR	5S	
XH1888	40	0	;	R	R	tr	0	0	R	0	TMR	5MR-MS	
XH9806	41	1	MR	5MR/MS	50S	70s	20	MS	S	20MS	TR	TR	
XH9815	42	2	MR	tMR	80S	80s	27	MS-S	S	TMS	TMR	TMR	
KS89180B-2-1-2	43	1	MR	5MR	20MS	40mr	0	0	S	0	TS	20MS-S	
HBK0630-4-5	44	15	MR	10MR/MS	40S	60s	60	S-MS	S-MS	TMS	50S	20MS-S	
NW97S151	45	15	MR	5R/MR	30S	30ms	67	MS	S	TMS	5R	TMS	

Table 8. Reaction of entries in the 1999 SRPN to seedling infection by leaf rust (*Puccinia recondite* f. sp. *Triticici*); from Don McVey (USDA-ARS, St. Paul, MN, and Bob Hunger, Oklahoma State University, Stillwater, OK).

line	entry	leaf rust race combinations (St. Paul, MN)								postulated lr	reaction type
		TDBM	TCLH	PLLM	TLLC	MGBM	PNMR	KDBM	PLMR		
KHARKOF	1	S	S	S	S	S	S	S	S	None	S
SCOUT 66	2	S	S	S	S	S	S	S	:1S	+	S
TAM-107	3	S	S	S	S	S	S	S	S	None	S
OK94P549-2C	4	:1C	S	1C	:	:1-C	:1	:1	:12C	26	MS
OK95616-14C	5	S	S	S	S	S	S	S	S	None	S
OK95571	6	S	S	S	X:	S	S	:1	:12C	+	S
OK96717	7	S	:	:1C	:1-C	:1-C	S	S	0:	24	MS
OK95548-26C	8	:1C	:12C	:1C	:	:1-C	:1-C	:1-C	:1-C	24.26	MR
TX93D2066	9	:C	:1C	:	0:	:	:	0:	:1-C	24.26	MR
TX95D8283	10	0:	0	S	S	0.S	S	0	S	?	R
TX90A9528	11	S	:1-C	S	23C	S	S	S	S	+	S
TX94V5922	12	0:S	:	0:S	:23C	0:S	S	0.S	S	+	R
TX95V4339	13	:	:	0:	:	:	0:	0	0:	1.10.24.2a	MS
TX95V5905	14	:1-C	0:	:1-CS	:1-CS	:1-C	:1CS	:1-C	S	+	MR
TX97V4311	15	:	0:	:1	:1C	:	:1C	0	:1-C	1.24.26	R
CO940611	16	S	:1-C	:1-C	:1C	:1-C	S	S	:1-C	24	MS
CO950043	17	S	:1-CS	S	S	S	S	S	S	+	S
Trego	18	:1C	:1-C	1	:1-C	:1-C	:12	:1C	0:	24.26	MR
KS95HW167-3	19	:12C	:	:1-C	:1-C	:1-C	:1-C	:1C	0:	10.+	MR
KS96HW10-3	20	S	S	S	S	S	:1C	S	:3C	+	S
KS96HW115	21	S	S	:12C	S	S	:12C	S	:3C	+	S
KS96HW94	22	:1CS	S	:1C	S.1C	S	:12C	:12C	:12C	+	S
G96047	23	S	0:	0:	:	:1-C	S	S	0:	24	MS
G96134	24	S	S	0:	2C	2C	:1C	0:	0:	+	S
G96135	25	S	2C	:1-C	1	2C	0:	S	0:	+	S
G96044	26	2C	S	:1-C	21C	2	:	:12C	:	26	S
NE95510	27	1CN	:1-C	:1-C	:1-C	:1-C	:1CN	:1CN	:1-C	24.26	MS
NE96573	28	:1CN	:	:	:1-C	:1-C	:1-C	:1C	0:	24.26	MS
TK1269	29	:1-C	:	0:	0:	0:	:	0:	0:	1.24.26	MR
TB1071	30	:1-C	:1-C	:1-C	:1-C	:1-C	:1-C	:	:1-C	1.24.26	S
T108	31	:12CS	2	:1C	:12C	S.1C	.1CS	S.1C	S.1C	seg 24.26	S
T111	32	S	S	:1-C	:12C	S	:1-C	23C	0:	+	S
T112	33	S.12C	12	:1C	2C	:1CS	S	S	:12CN	+	S
T114	34	0:	0	12CN	0:	0:	S	0:	S	1+	R
W95-385	35	1CN	1CN	:1CN	1CN	S	:1-CN	0	:1-CN	1.16	S
W95-392	36	1CN	:	:1-C	:1C	S	:1CN	0	1C	1.16.+	S
W95-091	37	:	:	0:	0:	:1-C	:	0:	0:	24.26	S
W94-480W	38	S	:	S	S	S	S	S	S	+	S
W95-610W	39	X	:1C	:1-C	X-	S	:1-C	S	:12C	+	S
XH1888	40	:1-C	:1-C	:1-C	:1C	:1-C	:1C	:1C	:	24.26	MS
XH9806	41	:1C	:1-C	:1-C	0	:1-C	:	0	:	1.24.26	MR
XH9815	42	:1C	S	:12C	:1-C	:1C	:1-C	0:	:1C	1.26	MR
KS89180B-2-1-2	43	:	:	:	:	0:	:	0:	0:	1.+	MR
HBK0630-4-5	44	0.1C	:	:1-C	0	0:	12CN	0	0:	1.24.26	S
NW97S151	45	0:	S:	:1-C	:	:1-C	:	0:	0:	1.+	MR

*Stillwater test: Leaf rust reaction of seedlings tested during the 1998-99 season was determined using a mixture of *P. triticina* urediospores collected in 98 May. This was a bulk spore collection obtained from seven hard red winter wheat cultivars (Big Dawg, Chisholm, Custer, Jagger, Karl 92, 2137, and 2174) growing at three locations (Apache, Kingfisher, and Lahoma) in Oklahoma.

*Table 9. Reaction of entries in the 1999 SRPN to seedling infection by stem rust (*Puccinia graminis* f. sp. *Triticici*); from Don McVey (USDA-ARS, St. Paul, MN).

Entry No.	Line/selection	Stem rust isolate							Postulated Sr genes
		TTRT	RTRQ	TPMK	QKCS	RHMS	RTHJ	RTQQ	
1	KHARKOF	S	S	S	S	S	S	S	None
2	SCOUT 66	S	S	S	S	S	S	:	17
3	TAM-107	1	2=	:	2=	1	2=	:1	6,Amigo
4	OK94P549-2C	1	2=S	2=S	S,2=	S,2=	2,S	:1	seg Amigo
5	OK95616-14C	S	S	S	S	2	2	:	17
6	OK95571	1	S	2,S	2-	2=	2	:1	17,?
7	OK96717	2=	2=	2	2-	2=	2=	2-	24
8	OK95548-26C	1	2=	2=	2=	:1	2=	;2-	Amigo,17
9	TX93D2066	:	2=S	2=	2=	:1	2=	:	17,Amigo
10	TX95D8283	1	2=	2=	2=	2=	2=	2=	Amigo
11	TX90A9528	2	2	S	S	2	S	2	+
12	TX94V5922	2	S,2=	2-,S	S,2=	2=S	S,2=	S	seg Amigo
13	TX95V4339	:S	2=	0	2-	2	2=	:1	6,17,Amigo
14	TX95V5905	S	S	2=	2=S	S,2=	S,2	S	+
15	TX97V4311	1	:1-N	:1	2=	:1	2=	:	6,10,Amigo
16	CO940611	2=	2=	:	2=	2=	2=	2-	6,24
17	CO950043	S	2	S	2,S	2	2-	2-	+
18	Trego	1	2=	:1	2=	2=	2=	2=	6,24
19	KS95HW167-3	1	2=	:	2=	2=	2=	2=	6,24
20	KS96HW10-3	2-	2=	2=	2=	:1	2=	:	17,24
21	KS96HW115	S	S	S	S	S	S	:	17
22	KS96HW94	S	S	S	S	:12-	S	S	None
23	G96047	2-	2=	2=	2=	2=	2=	2-	24
24	G96134	S?	2-	S?	2-	2=	2=	2-	24?
25	G96135	S?	2	S?	2	2=	2=	2=	24?
26	G96044	2=	1	2=	2=	2=	2=	1	26?
27	NE95510	:	2	:	2=	2=	1	:1	6,24,31
28	NE96573	1	2-	:	2=	2=	:1	2=	6,24,31
29	TK1269	1	2=	2-	:	:1-	:1	2=	24,31,36?
30	TB1071	2=	2	S	2=	2-	S	2	+
31	T108	2=	2=	2=	2=S	1	2=	2=	24,31
32	T111	:S	2=	S	2=	2=	X	:1	17
33	T112	1,S	2=S	S	2=S	2=S	2=	:1	10,seg24
34	T114	2-	:1	2=	2	2	2=	1	10,24
35	W95-385	2-	S	:	2	S	2	:1	6,17,+
36	W95-392	2	S	:1	23	S	2	S	6
37	W95-091	S	:1-N	S	:	:1	:	:1	10,36
38	W94-480W	S	S	S	S	S	S	:	17
39	W95-610W	S	S	S	S	S	S	:1	17
40	XH1888	2=	2	23,:	2=S	2=	2=	:1	17,31,seg6
41	XH9806	1	1	2=	2=	2=	1	:1	17,24,31
42	XH9815	:	2=	2=	2	:1	2=	:1	17,24,31
43	KS89180B-2-1-2	0	2=	2=	2	2=	2=	0	17,24
44	HBK0630-4-5	2,S	2=	2	2=S	2=	2=	:1	17,24,31
45	NW97S151	1	2=	2=	2=	:1	:1	0	17,24

Table 10. Tolerance to acid soil conditions, 1999 SRPN (from Brett Carver, Oklahoma State University, Stillwater, OK).

line	acid soil tolerance*			
	entry	Dec., 1998	Feb., 1999	May, 1999
KHARKOF	1	5	5	4
SCOUT 66	2	3	3	3
TAM -107	3	4	4	5
OK94P549-2C	4	1	1	1
OK95616-14C	5	4	5	5
OK95571	6	2	3	2
OK96717	7	3	4	4
OK95548-26C	8	2	3	2
TX93D2066	9	4	4	4
TX95D8283	10	5	4	3
TX90A9528	11	5	4	3
TX94V5922	12	4	3	2
TX95V4339	13	3	4	4
TX95V5905	14	1	1	2
TX97V4311	15	4	3	4
CO940611	16	3	4	4
CO950043	17	4	4	4
Trego	18	4	4	3
KS95HW167-3	19	4	4	4
KS96HW 10-3	20	3	3	3
KS96HW 115	21	4	4	3
KS96HW 94	22	4	3	3
G96047	23	4	4	4
G96134	24	4	4	3
G96135	25	4	4	3
G96044	26	4	5	5
NE95510	27	5	5	3
NE96573	28	4	3	3
TK1269	29	4	4	4
TB1071	30	3	2	4
T108	31	3	2	2
T111	32	3	3	3
T112	33	2	3	2
T114	34	2	4	5
W 95-385	35	2	3	5
W 95-392	36	2	2	5
W 95-091	37	2	3	4
W 94-480W	38	2	3	4
W 95-610W	39	3	2	2
XH1888	40	2	3	2
XH9806	41	2	3	2
XH9815	42	1	2	1
KS89180B-2-1-2	43	2	3	3
HBK0630-4-5	44	1	2	5
NW 97S151	45	2	3	4

*Standard cultivar used to set scale was 2163, with an assigned rating of 2 on a scale of 1 (tolerant) to 5 (susceptible).

Table 11. Miscellaneous quality-related traits, 1999 SRPN.

line	entry	1RS status	waxy genotype*	PPO**
Kharkof	1	NON.1RS	wild-type	3
Scout 66	2	NON.1RS	wild-type	3
TAM 107	3	1AL.1RS	wild-type	2
OK94P549-2C	4	1BL.1RS	wild-type	1
OK95616-14C	5	NON.1RS	<i>wx-A1</i> null	2
OK95571	6	NON.1RS	wild-type	5
OK96717	7	NON.1RS	wild-type	2
OK95548-26C	8	1BL.1RS	wild-type	2
TX93D2066	9	1BL.1RS	wild-type	3
TX95D8283	10	1AL.1RS		1
TX90A9528	11	NON.1RS	<i>wx-B1</i> null	4
TX94V5922	12	NON.1RS	wild-type	5
TX95V4339	13	NON.1RS	wild-type	4
TX95V5905	14	NON.1RS	<i>wx-B1</i> null	4
TX97V4311	15	NON.1RS	wild-type	4
CO940611	16	NON.1RS	wild-type	5
CO950043	17	NON.1RS	<i>wx-B1</i> null	4
Trego	18	NON.1RS	<i>wx-B1</i> null	5
KS95H167-3	19	NON.1RS	wild-type	4
KS96HW10-3	20	NON.1RS	wild-type	3
KS96HW115	21	NON.1RS	wild-type	1
KS96HW94	22	NON.1RS	wild-type	4
G96047	23	NON.1RS	wild-type	4
G96134	24	NON.1RS	wild-type	4
G96135	25	NON.1RS		3
G96044	26	1AL.1RS		3
NE95510	27	NON.1RS		3
NE96573	28	NON.1RS	<i>wx-B1</i> null	3
TK1269	29	NON.1RS	wild-type	
TB1071	30	NON.1RS	wild-type	
T108	31	1AL.1RS	wild-type	5
T111	32	NON.1RS		4
T112	33	NON.1RS	wild-type	4
T114	34	1AL.1RS	wild-type	4
W95-385	35	NON.1RS	<i>wx-B1</i> null	4
W95-392	36	NON.1RS	wild-type	4
W95-091	37	NON.1RS	wild-type	3
W94-480W	38	NON.1RS	wild-type	3
W95-610W	39	1AL.1RS		4
XH1888	40	NON.1RS	wild-type	5
XH9806	41	1BL.1RS		4
XH9815	42	1BL.1RS		4
KS89180B-2-1-2	43	1BL.1RS	wild-type	4
HBK0630-4-5	44	NON.1RS	wild-type	4
NW97S151	45	1BL.1RS		4

*waxy genotype = granule-bound starch synthase (waxy locus) alleles

***PPO = polyphenol oxidase activity, whole grain, 0-5 scale, cv. Platte
(value=1) used as control